



#9

SEQUENCE LISTING

<110> Anderson, David
Burgess, Catherine
Casman, Stacie
Colman, Steven
Edinger, Shlomit R.
Ellerman, Karen
Gerlach, Valerie
Gunther, Erik
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MacDougall, John R.
Mehraban, Fuad
Patturajan, Meera
Rothenberg, Mark
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Smithson, Glennda
Spytek, Kimberly A.
Stone, David J.
Vernet, Corine A.M.
Zerhusen, Bryan D.

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USING THE SAME

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<212> PRT
<213> Homo sapiens

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Glu Ser Phe Thr Thr Thr Thr Lys Glu Ser His Ser Arg Pro Phe Ser
      35              40              45

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Lys	Thr	Asp	His	Arg	Gln	Arg	Leu	Gln	Cys	Cys	His	Gly	Phe	Tyr	Glu	85	90	95	
Ser	Arg	Gly	Phe	Cys	Val	Pro	Leu	Cys	Ala	Gln	Glu	Cys	Val	His	Gly	100	105	110	
Arg	Cys	Val	Ala	Pro	Asn	Gln	Cys	Gln	Cys	Val	Pro	Gly	Trp	Arg	Gly	115	120	125	
Asp	Asp	Cys	Ser	Ser	Glu	Cys	Ala	Pro	Gly	Met	Trp	Gly	Pro	Gln	Cys	130	135	140	
Asp	Lys	Pro	Cys	Ser	Cys	Gly	Asn	Asn	Ser	Ser	Cys	Asp	Pro	Lys	Ser	145	150	155	160
Gly	Val	Cys	Ser	Cys	Pro	Ser	Gly	Leu	Gln	Pro	Pro	Asn	Cys	Leu	Gln	165	170	175	
Pro	Cys	Thr	Pro	Gly	Tyr	Tyr	Gly	Pro	Ala	Cys	Gln	Phe	Arg	Cys	Gln	180	185	190	
Cys	His	Gly	Ala	Pro	Cys	Asp	Pro	Gln	Thr	Gly	Ala	Cys	Phe	Cys	Pro	195	200	205	
Ala	Glu	Arg	Thr	Gly	Pro	Ser	Cys	Asp	Val	Ser	Cys	Ser	Gln	Gly	Thr	210	215	220	
Ser	Gly	Phe	Phe	Cys	Pro	Ser	Thr	His	Ser	Cys	Gln	Asn	Gly	Gly	Val	225	230	235	240
Phe	Gln	Thr	Pro	Gln	Gly	Ser	Cys	Ser	Cys	Pro	Pro	Gly	Trp	Met	Val	245	250	255	
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Val	Gly	Gly	Ala	Lys	Gln	Gly	Ser	Lys	Gly	Thr	Ile	Cys	Ser	Leu	Pro	275	280	285	
Cys	Pro	Glu	Gly	Phe	His	Gly	Pro	Asn	Cys	Ser	Gln	Glu	Cys	Arg	Cys	290	295	300	

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Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala Pro Asp Ala Arg
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Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His Gly Phe Thr Gly
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Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp Gly Phe Tyr Gly Leu Ser
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Cys Gln Ala Pro Cys Thr Cys Asp Arg Glu His Ser Leu Ser Cys His
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Pro Met Asn Gly Glu Cys Ser Cys Leu Pro Gly Trp Ala Gly Leu His
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Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro Gly Cys Gln Glu
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His Cys Leu Cys Leu His Gly Gly Val Cys Gln Ala Thr Ser Gly Leu
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Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro His Cys Ala Ser Leu Cys
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Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser Ala Arg Cys Ser Cys Glu
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Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Glu Cys Val Cys Lys Glu
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Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro Pro Gly Thr Trp
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His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly Glu Gly Cys Ala
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Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys Ala Asn His Ser Phe Cys
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His Pro Ser Asn Gly Thr Cys Tyr Cys Leu Ala Gly Trp Thr Gly Pro
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Asp Cys Ser Gln Arg Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys Ser
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Gln Pro Cys Gln Cys Gly Pro Gly Glu Lys Cys His Pro Glu Thr Gly
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Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp Gly
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Pro Pro Asn Lys Val Pro Gly Pro Leu Phe Ala Ser Leu Gln Lys Pro
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Glu Arg Pro Gly Gly Ala Gln Gly His Asp Asn His Thr Thr Leu Pro
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Ala Asp Trp Lys His Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp Arg
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Gly Ser Ser Arg Leu Asp Arg Ser Tyr Ser Tyr Ser Tyr Ser Asn Gly
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Pro Gly Pro Phe Tyr Asn Lys Gly Leu Ile Ser Glu Glu Glu Leu Gly
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Ala Ser Val Ala Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg
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Asp Leu Pro Ser Leu Pro Gly Gly Pro Arg Glu Ser Ser Tyr Met Glu
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Met Lys Gly Pro Pro Ser Gly Ser Pro Pro Arg Gln Pro Pro Gln Phe
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Trp Asp Ser Gln Arg Arg Arg Gln Pro Gln Pro Gln Arg Asp Ser Gly
945 950 955 960

Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val Gly
965 970 975

Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp Ser
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Pro Lys Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg
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His Pro Pro Ser Pro Pro Leu Arg Arg Gln Asp Arg
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<212> PRT

<213> Homo sapiens

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Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
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Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
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Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu
85 90 95

Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
115 120 125

Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
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Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln
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Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
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Cys Pro Glu Gly Phe His Gly Pro Asn Cys Ser Gln Glu Cys Arg Cys				
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Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu Glu Cys Pro Val Gly Arg				
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Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala Pro Asp Ala Arg				
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Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His Gly Phe Thr Gly				
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Cys Gln Ala Pro Arg Thr Cys Asp Arg Glu His Ser Leu Ser Cys His				
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Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro His Cys Ala Ser Leu Cys				
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Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser Ala Arg Cys Ser Cys Glu				

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Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys Ala His Glu Ala Val Cys						
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Ser Arg Cys Asp Cys Asp His Ser Asp Gly Cys Asp Pro Val His Gly						
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Arg Cys Gln Cys Gln Ala Gly Trp Met Gly Ala Arg Cys His Leu Ser						
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Lys Asn Gly Gly Thr Cys Leu Pro Glu Asn Gly Asn Cys Val Cys Ala						
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Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Ser Cys Gln Pro Gly Arg						
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Tyr Gly Lys Arg Cys Val Pro Cys Lys Cys Ala Asn His Ser Phe Cys						
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His Pro Ser Asn Gly Ala Cys Tyr Cys Leu Ala Gly Trp Thr Gly Pro						
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Gln Thr Cys Gln Cys His His Gly Gly Thr Cys His Pro Gln Asp Gly						
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Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly His His Cys Leu Glu Gly						
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Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys Ser Gln Pro Cys Gln Cys						

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Gly Pro Gly Glu Lys Cys His Pro Glu Thr Gly Ala Cys Val Cys Pro					
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Pro Gly His Ser Gly Ala Pro Cys Arg Ile Gly Ile Gln Glu Pro Phe					
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Thr Val Met Pro Thr Thr Pro Val Ala Tyr Asn Ser Leu Gly Ala Val					
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Ile Gly Ile Ala Val Leu Gly Ser Leu Val Val Ala Leu Val Ala Leu					
785		790		795	800
Phe Ile Gly Tyr Arg His Trp Gln Lys Asp Lys Glu His His His Leu					
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Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp Gly Ser Glu Tyr Val Met					
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Pro Asp Val Pro Pro Ser Tyr Ser His Tyr Tyr Ser Asn Pro Ser Tyr					
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His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro Pro Pro Asn Lys Val					
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Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn Pro Glu Arg Pro Gly Gly					
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Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp Arg Gly Arg Cys Arg Glu					
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Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
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Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln
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Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
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Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
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Ser Arg Gly Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
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Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln
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Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro
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Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr
 210 215 220

Ser Gly Phe Phe Cys Pro Ser Thr His Pro Cys Gln Asn Gly Gly Val
 225 230 235 240

Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly
 245 250 255

Thr Ile Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys
 260 265 270

Ser Gln Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr
 275 280 285

Gly Gln Cys Arg Cys Ala Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu
 290 295 300

Glu Cys Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp
 305 310 315 320

Cys Ala Pro Asp Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys
 325 330 335

Glu His Gly Phe Thr Gly Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp
 340 345 350

Gly Phe Tyr Gly Leu Ser Cys Gln Ala Pro Arg Thr Cys Asp Arg Glu
 355 360 365

His Ser Leu Ser Cys His Pro Met Asn Gly Glu Cys Ser Cys Leu Pro
 370 375 380

Gly Trp Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His
 385 390 395 400

Gly Pro Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Val Cys
 405 410 415

Gln Ala Thr Ser Gly Leu Cys Gln Cys Ala Pro Gly Tyr Thr Gly Pro
 420 425 430

His Cys Ala Ser Leu Cys Pro Pro Asp Thr Tyr Gly Val Asn Cys Ser
 435 440 445

Ala Arg Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly
 450 455 460

Glu Cys Val Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro
 465 470 475 480

Cys Pro Pro Gly Thr Trp Gly Phe Ser Cys Asn Ala Ser Cys Gln Cys
 485 490 495

Ala His Glu Ala Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr
 500 505 510

Pro Gly Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln
 515 520 525

Phe	Gly	Glu	Gly	Cys	Ala	Ser	Arg	Cys	Asp	Cys	Asp	His	Ser	Asp	Gly	530	535	540
Cys	Asp	Pro	Val	His	Gly	Arg	Cys	Gln	Cys	Gln	Ala	Gly	Trp	Met	Gly	545	550	555
Ala	Arg	Cys	His	Leu	Ser	Cys	Pro	Glu	Gly	Leu	Trp	Gly	Val	Asn	Cys	565	570	575
Ser	Asn	Thr	Cys	Thr	Cys	Lys	Asn	Gly	Gly	Thr	Cys	Leu	Pro	Glu	Asn	580	585	590
Gly	Asn	Cys	Val	Cys	Ala	Pro	Gly	Phe	Arg	Gly	Pro	Ser	Cys	Gln	Arg	595	600	605
Ser	Cys	Gln	Pro	Gly	Arg	Tyr	Gly	Lys	Arg	Cys	Val	Pro	Cys	Lys	Cys	610	615	620
Ala	Asn	His	Ser	Phe	Cys	His	Pro	Ser	Asn	Gly	Thr	Cys	Tyr	Cys	Leu	625	630	635
Ala	Gly	Trp	Thr	Gly	Pro	Asp	Cys	Ser	Gln	Pro	Cys	Pro	Pro	Gly	His	645	650	655
Trp	Gly	Glu	Asn	Cys	Ala	Gln	Thr	Cys	Gln	Cys	His	His	Gly	Gly	Thr	660	665	670
Cys	His	Pro	Gln	Asp	Gly	Ser	Cys	Ile	Cys	Pro	Leu	Gly	Trp	Thr	Gly	675	680	685
His	His	Cys	Leu	Glu	Gly	Cys	Pro	Leu	Gly	Thr	Phe	Gly	Ala	Asn	Cys	690	695	700
Ser	Gln	Pro	Cys	Gln	Cys	Gly	Pro	Gly	Glu	Lys	Cys	His	Pro	Glu	Thr	705	710	715
Gly	Ala	Cys	Val	Cys	Pro	Pro	Gly	His	Ser	Gly	Ala	Pro	Cys	Arg	Ile	725	730	735
Gly	Ile	Gln	Glu	Pro	Phe	Thr	Val	Met	Pro	Thr	Thr	Pro	Val	Ala	Tyr	740	745	750
Asn	Ser	Leu	Gly	Ala	Val	Ile	Gly	Ile	Ala	Val	Leu	Gly	Ser	Leu	Val	755	760	765
Val	Ala	Leu	Val	Ala	Leu	Phe	Ile	Gly	Tyr	Arg	His	Trp	Gln	Lys	Asp	770	775	780

Lys Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp
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 Gly Ser Glu Tyr Val Met Pro Asp Val Pro Pro Ser Tyr Ser His Tyr
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 Tyr Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro
 820 825 830
 Pro Pro Pro Asn Lys Val Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn
 835 840 845
 Pro Glu Arg Pro Gly Gly Ala Gln Gly His Asp Asn His Thr Thr Leu
 850 855 860
 Pro Ala Asp Trp Lys His Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp
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 Arg Gly Ser Ser Arg Leu Asp Arg Ser Tyr Ser Tyr Ser Tyr Ser Asn
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 Gly Pro Gly Pro Phe Tyr Asn Lys Gly Leu Ile Ser Glu Glu Glu Leu
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 Trp Ala Ser Val Ala Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile
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 Arg Asp Leu Pro Ser Leu Pro Gly Gly Pro Arg Glu Ser Ser Tyr Met
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 Glu Met Lys Gly Pro Pro Ser Gly Ser Pro Pro Arg Gln Pro Pro Gln
 945 950 955 960
 Phe Trp Asp Ser Gln Arg Arg Arg Gln Pro Gln Pro Gln Arg Asp Ser
 965 970 975
 Gly Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val
 980 985 990
 Gly Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp
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 <211> 3114
 <212> DNA
 <213> Homo sapiens

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<210> 10

<211> 1037

<212> PRT

<213> Homo sapiens

<400> 10

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Leu Ala Gly Thr Leu Asn Pro Ser Asp Pro Asn Thr Cys Ser Phe Trp
          20                      25                      30

```

```

Glu Ser Phe Thr Thr Thr Thr Lys Glu Ser His Ser Arg Pro Phe Ser
          35                      40                      45

```

```

Leu Leu Pro Ser Glu Pro Cys Glu Arg Pro Trp Glu Gly Pro His Thr
          50                      55                      60

```

```

Cys Pro Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val
          65                      70                      75                      80

```

```

Lys Thr Asp His Arg Gln Arg Leu Gln Cys Cys His Gly Phe Tyr Glu
          85                      90                      95

```

```

Ser Arg Glu Phe Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly
          100                      105                      110

```

```

Arg Cys Val Ala Pro Asn Gln Cys Gln Cys Val Pro Gly Trp Arg Gly
          115                      120                      125

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```

Asp Asp Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys
          130                      135                      140

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Asp Lys Pro Cys Ser Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser
          145                      150                      155                      160

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Gly Val Cys Ser Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln	165	170	175
Pro Cys Thr Pro Gly Tyr Tyr Gly Pro Ala Cys Gln Phe Arg Cys Gln	180	185	190
Cys His Gly Ala Pro Cys Asp Pro Gln Thr Gly Ala Cys Phe Cys Pro	195	200	205
Ala Glu Arg Thr Gly Pro Ser Cys Asp Val Ser Cys Ser Gln Gly Thr	210	215	220
Ser Gly Phe Phe Cys Pro Ser Thr His Pro Cys Gln Asn Gly Gly Val	225	230	235
Phe Gln Thr Pro Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly	245	250	255
Thr Ile Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys	260	265	270
Ser Gln Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr	275	280	285
Gly Gln Cys Arg Cys Ala Pro Gly Tyr Thr Gly Asp Arg Cys Arg Glu	290	295	300
Glu Cys Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp	305	310	315
Cys Ala Pro Asp Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys	325	330	335
Glu His Gly Phe Thr Gly Asp Arg Cys Thr Asp Arg Leu Cys Pro Asp	340	345	350
Gly Phe Tyr Gly Leu Ser Cys Gln Ala Pro Cys Thr Cys Asp Arg Glu	355	360	365
His Ser Leu Ser Cys His Pro Met Asn Gly Glu Cys Ser Cys Leu Pro	370	375	380
Gly Trp Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His	385	390	395
Gly Pro Gly Cys Gln Glu Tyr Cys Leu Cys Leu His Gly Gly Val Cys	405	410	415

Gln	Ala	Thr	Ser	Gly	Leu	Cys	Gln	Cys	Ala	Pro	Gly	Tyr	Thr	Gly	Pro	420	425	430
His	Cys	Ala	Ser	Leu	Cys	Pro	Pro	Asp	Thr	Tyr	Gly	Val	Asn	Cys	Ser	435	440	445
Ala	Arg	Cys	Ser	Cys	Glu	Asn	Ala	Ile	Ala	Cys	Ser	Pro	Ile	Asp	Gly	450	455	460
Glu	Cys	Val	Cys	Lys	Glu	Gly	Trp	Gln	Arg	Gly	Asn	Cys	Ser	Val	Pro	465	470	475 480
Cys	Pro	Pro	Gly	Thr	Trp	Gly	Phe	Ser	Cys	Asn	Ala	Ser	Cys	Gln	Cys	485	490	495
Ala	His	Glu	Ala	Val	Cys	Ser	Pro	Gln	Thr	Gly	Ala	Cys	Thr	Cys	Thr	500	505	510
Pro	Gly	Trp	His	Gly	Ala	His	Cys	Gln	Leu	Pro	Cys	Pro	Lys	Gly	Gln	515	520	525
Phe	Gly	Glu	Gly	Cys	Ala	Ser	Arg	Cys	Asp	Cys	Asp	His	Ser	Asp	Gly	530	535	540
Cys	Asp	Pro	Val	His	Gly	Arg	Cys	Gln	Cys	Gln	Ala	Gly	Trp	Met	Gly	545	550	555 560
Ala	Arg	Cys	His	Leu	Ser	Cys	Pro	Glu	Gly	Leu	Trp	Gly	Val	Asn	Cys	565	570	575
Ser	Asn	Thr	Cys	Thr	Cys	Lys	Asn	Gly	Gly	Thr	Cys	Leu	Pro	Glu	Asn	580	585	590
Gly	Asn	Cys	Val	Cys	Ala	Pro	Gly	Phe	Arg	Gly	Pro	Ser	Cys	Gln	Arg	595	600	605
Ser	Cys	Gln	Pro	Gly	Arg	Tyr	Gly	Lys	Arg	Cys	Val	Pro	Cys	Lys	Cys	610	615	620
Ala	Asn	His	Ser	Phe	Cys	His	Pro	Ser	Asn	Gly	Thr	Cys	Tyr	Cys	Leu	625	630	635 640
Ala	Gly	Trp	Thr	Gly	Pro	Asp	Cys	Ser	Gln	Pro	Cys	Pro	Pro	Gly	His	645	650	655
Trp	Gly	Glu	Asn	Cys	Ala	Gln	Thr	Cys	Gln	Cys	His	His	Gly	Gly	Thr	660	665	670

Cys His Pro Gln Asp Gly Ser Cys Ile Cys Pro Leu Gly Trp Thr Gly
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His His Cys Leu Glu Gly Cys Pro Leu Gly Thr Phe Gly Ala Asn Cys
690 695 700
Ser Gln Pro Cys Gln Cys Gly Pro Gly Glu Lys Cys His Pro Glu Thr
705 710 715 720
Gly Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Pro Cys Arg Ile
725 730 735
Gly Ile Gln Glu Pro Phe Thr Val Met Pro Thr Thr Pro Val Ala Tyr
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Asn Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Ser Leu Val
755 760 765
Val Ala Leu Val Ala Leu Phe Ile Gly Tyr Arg His Trp Gln Lys Gly
770 775 780
Lys Glu His His His Leu Ala Val Ala Tyr Ser Ser Gly Arg Leu Asp
785 790 795 800
Gly Ser Glu Tyr Val Met Pro Asp Val Pro Pro Ser Tyr Ser His Tyr
805 810 815
Tyr Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro
820 825 830
Pro Pro Pro Asn Lys Val Pro Gly Pro Leu Phe Ala Ser Leu Gln Asn
835 840 845
Pro Glu Arg Pro Gly Gly Ala Gln Gly His Asp Asn His Thr Thr Leu
850 855 860
Pro Ala Asp Trp Lys His Arg Arg Glu Pro Pro Pro Gly Pro Leu Asp
865 870 875 880
Arg Gly Ser Ser His Leu Asp Arg Ser Tyr Ser Tyr Ser Tyr Ser Asn
885 890 895
Gly Pro Gly Pro Phe Tyr Asp Lys Gly Leu Ile Ser Glu Glu Glu Leu
900 905 910
Gly Ala Ser Val Thr Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile
915 920 925

Arg Asp Leu Pro Ser Leu Pro Gly Gly Pro Arg Glu Ser Ser Tyr Met
 930 935 940

Glu Met Lys Gly Pro Pro Ser Gly Ser Pro Pro Arg Gln Pro Pro Gln
 945 950 955 960

Phe Trp Asp Ser Gln Arg Arg Arg Gln Pro Gln Pro Gln Arg Asp Ser
 965 970 975

Gly Thr Tyr Glu Gln Pro Ser Pro Leu Ile His Asp Arg Asp Ser Val
 980 985 990

Gly Ser Gln Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp
 995 1000 1005

Ser Pro Lys Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val
 1010 1015 1020

Arg His Pro Pro Ser Pro Pro Leu Arg Arg Gln Asp Arg
 1025 1030 1035

<210> 11

<211> 1833

<212> DNA

<213> Homo sapiens

<400> 11

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<210> 12

<211> 557

<212> PRT

<213> Homo sapiens

<400> 12

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Glu	Ala	Asp	Leu	Ala	Leu	Arg	Pro	Pro	Pro	Pro	Leu	Gly	Thr	Ala	Gly
			20					25					30		

Gln	Pro	Arg	Leu	Gly	Pro	Pro	Pro	Arg	Arg	Ala	Arg	Arg	Phe	Ser	Gly
			35				40					45			

Lys	Ala	Glu	Pro	Arg	Pro	Arg	Ser	Ser	Arg	Pro	Ser	Arg	Arg	Ser	Ser
	50					55					60				

Val	Asp	Leu	Gly	Leu	Leu	Ser	Ser	Trp	Ser	Gln	Pro	Ala	Ser	Leu	Leu
65					70					75					80

Pro	Glu	Pro	Pro	Asp	Pro	Pro	Asp	Ser	Ala	Gly	Pro	Thr	Arg	Ser	Pro
				85					90					95	

Pro	Ser	Ser	Ser	Lys	Glu	Pro	Pro	Glu	Gly	Thr	Trp	Met	Gly	Ala	Ala
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Pro	Val	Lys	Ala	Val	Asp	Ser	Ala	Cys	Pro	Glu	Leu	Thr	Gly	Ser	Ser
		115					120						125		

Gly	Gly	Pro	Gly	Ser	Arg	Glu	Pro	Leu	Arg	Val	Pro	Glu	Ala	Val	Ala
	130					135					140				

Leu	Glu	Arg	Arg	Arg	Glu	Gln	Glu	Glu	Lys	Glu	Asp	Met	Glu	Thr	Gln
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Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Arg Gly Leu Asp Thr Asp						
	180		185		190	
Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Thr Arg Lys Leu Ser						
	195		200		205	
Arg Ala Glu Arg Gln Arg Phe Ser Glu Glu Val Glu Met Leu Lys Gly						
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Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Lys Ser Val						
225		230		235		240
Leu Arg Gly Gln Val Cys Ile Val Leu Val Thr Glu Leu Met Thr Ser						
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Gly Thr Leu Lys Thr Tyr Leu Arg Arg Phe Arg Glu Met Lys Pro Arg						
	260		265		270	
Val Leu Gln Arg Trp Ser Arg Gln Ile Leu Arg Gly Leu His Phe Leu						
	275		280		285	
His Ser Arg Val Pro Pro Ile Leu His Arg Asp Leu Lys Cys Asp Asn						
	290		295		300	
Val Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp Leu Gly						
305		310		315		320
Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile Gly Thr						
	325		330		335	
Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp Glu Ala						
	340		345		350	
Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala Thr Ser						
	355		360		365	
Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr Arg Lys						
	370		375		380	
Val Thr Ser Gly Arg Lys Pro Asn Ser Phe His Lys Val Lys Ile Pro						
385		390		395		400
Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Thr Asp Lys Asn Glu						


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<211> 322

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (203)

<223> Where Xaa is Ile or Met

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Phe	Ser	His	Phe	Ile	Leu	Ile	Gly	Phe	Ser	Asp	Arg	Pro	Glu	Leu	Glu
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Arg	Val	Leu	Phe	Ala	Ile	Ile	Leu	Pro	Ala	Tyr	Leu	Leu	Thr	Leu	Leu
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Gly	Asn	Ser	Ile	Ile	Ile	Leu	Val	Ser	Arg	Leu	Asp	Pro	His	Leu	His
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Thr	Pro	Met	Tyr	Phe	Phe	Leu	Thr	His	Leu	Ser	Phe	Leu	Asp	Leu	Ser
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Phe	Thr	Ser	Ser	Ser	Ile	Pro	Gln	Leu	Leu	Tyr	Asn	Leu	Ser	Gly	Pro
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Asp	Lys	Thr	Ile	Ser	Tyr	Val	Gly	Cys	Ala	Leu	Gln	Leu	Val	Leu	Phe
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Leu	Gly	Leu	Gly	Gly	Val	Glu	Cys	Leu	Leu	Leu	Ala	Val	Met	Ala	Tyr
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Asp	Arg	Phe	Val	Ala	Val	Cys	Lys	Pro	Leu	His	Tyr	Met	Val	Ile	Met
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Asn	Pro	Gln	Leu	Cys	Arg	Gly	Leu	Val	Ser	Val	Thr	Trp	Gly	Cys	Gly
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Val	Ala	Asn	Ser	Leu	Ala	Met	Ser	Pro	Val	Thr	Leu	Arg	Leu	Pro	Arg
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Cys	Gly	His	His	Glu	Val	Asp	His	Phe	Leu	Arg	Glu	Met	Pro	Ala	Leu
			180					185					190		

Ile	Arg	Met	Ala	Cys	Val	Ser	Thr	Val	Ala	Xaa	Glu	Gly	Thr	Val	Phe
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Val	Leu	Ala	Val	Gly	Ala	Ala	Leu	Ser	Pro	Leu	Val	Phe	Ile	Met	Ile
	210					215					220				

Ser	Tyr	Ser	Tyr	Ile	Val	Arg	Ala	Val	Leu	Gln	Ile	Arg	Ser	Ala	Ser
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Gly Arg Gln Lys Ala Phe Gly Thr Cys Gly Ser His Leu Thr Val Val
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Ser Leu Phe Tyr Gly Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ala
 260 265 270

Ser Ser Ser Gln Asp Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile
 275 280 285

Val Thr Pro Leu Leu Asn Pro Leu Ile Tyr Thr Leu Arg Asn Arg Glu
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Val Lys Gly Ala Leu Gly Arg Leu Leu Leu Gly Lys Arg Glu Leu Gly
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Lys Glu

<210> 15

<211> 2381

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (2004)

<223> Where n is a or c or t or g.

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<210> 16

<211> 372

<212> PRT

<213> Homo sapiens

<400> 16

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Ala Pro Thr Ser Gln Ser Leu Arg Cys Ala Pro Gln Pro Arg Pro Ser
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Arg Ala Asp Thr Gly Ser Leu Gly Arg Tyr Trp Gly Lys Ala Ala Ala
          35                      40                      45

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Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala
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Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu
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Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu
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Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro
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Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val
 115 120 125

Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp
 130 135 140

Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
 145 150 155 160

His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
 165 170 175

Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His
 180 185 190

Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly
 195 200 205

Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala
 210 215 220

Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser
 225 230 235 240

Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu
 245 250 255

Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val
 260 265 270

Gly Arg Glu Arg Leu Trp Arg Gln Ala Gly Glu Trp Gln Arg Arg Gly
 275 280 285

Pro Arg Arg Arg Thr Pro Arg Ala Ala Gly Trp Arg Lys Cys Ile Ala
 290 295 300

Phe Ser Ala Ile Cys Ser Pro His Ser Arg Thr Val Asp Arg Asp Arg
 305 310 315 320

Asp Trp Arg Ala Arg Arg Gly Cys Asp Thr Val Ala Met Ala Arg Ser
 325 330 335

Trp Val Val Pro Gly Ser Thr Glu Gly Glu Ala Pro Trp Thr Leu Leu
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Gly Pro Ala Arg Asn Arg Thr Arg Arg Gly Pro Thr Gln Val Leu Val
 355 360 365

Ser Gly Leu Leu
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<210> 17
 <211> 1209
 <212> DNA
 <213> Homo sapiens

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<210> 18
 <211> 315
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala
 50 55 60
 Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu
 65 70 75 80
 Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu
 85 90 95
 Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro
 100 105 110
 Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val
 115 120 125
 Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp
 130 135 140
 Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg
 145 150 155 160
 His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu
 165 170 175
 Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His
 180 185 190
 Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly
 195 200 205
 Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala
 210 215 220
 Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser
 225 230 235 240
 Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu
 245 250 255
 Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val
 260 265 270
 Gly Ala Thr Ala Val Glu Thr Ser Arg Arg Val Ala Ala Ser Arg Thr
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Lys Ala Lys Asp Thr Ala Gly Ser Arg Val Ala Gln Met His Ser Leu
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Phe Arg His Leu Phe Pro Ser Phe Gln Asp Arg
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<210> 19
 <211> 6272
 <212> DNA
 <213> Homo sapiens

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<211> 2058

<212> PRT

<213> Homo sapiens

<400> 20

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Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Lys Asp Lys
      20                25                30

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Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly Lys
      35                40                45

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Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala Gly
      50                55                60

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Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Gly Thr Ser Pro Thr Ala
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Leu Pro Leu Cys Asp Pro Phe Thr Tyr Thr Ala Glu Glu Ala Lys Ala
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Glu Arg Gln Lys Gln Gly Pro Glu Arg Lys Arg Ile Lys Lys Glu Pro	100	105	110
Val Thr Arg Lys Ala Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu	115	120	125
Ser Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu	130	135	140
Ser Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser	145	150	155
Thr Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp	165	170	175
Lys Val Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala	180	185	190
Ala Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly	195	200	205
Ala Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu	210	215	220
Ala Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala	225	230	235
Gly Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His	245	250	255
Asp Ala Ala Asn Asn Gly His Gln Val Val Lys Leu Leu Leu Arg Tyr	260	265	270
Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys	275	280	285
Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr	290	295	300
Tyr Thr Ser Ser Glu Glu Ser Ser Ser Glu Glu Glu Asp Ala Pro Ser	305	310	315
Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp Ser Glu Phe	325	330	335
Glu Lys Gly Leu Lys His Lys Ala Lys Asn Pro Glu Pro Gln Lys Ala	340	345	350

Thr Ala Pro Val Lys Asp Glu Tyr Glu Phe Asp Glu Asp Asp Glu Gln
 355 360 365
 Asp Arg Val Pro Pro Val Asp Asp Lys His Leu Leu Lys Lys Asp Tyr
 370 375 380
 Arg Lys Glu Thr Lys Ser Asn Ser Phe Ile Ser Ile Pro Lys Met Glu
 385 390 395 400
 Val Lys Ser Tyr Thr Lys Asn Asn Thr Ile Ala Pro Lys Lys Ala Ser
 405 410 415
 His Arg Ile Leu Ser Asp Thr Ser Asp Glu Glu Asp Ala Ser Val Thr
 420 425 430
 Val Gly Thr Gly Glu Lys Leu Arg Leu Ser Ala His Thr Ile Leu Pro
 435 440 445
 Gly Ser Lys Thr Arg Glu Pro Ser Asn Ala Lys Gln Gln Lys Glu Lys
 450 455 460
 Asn Lys Val Lys Lys Lys Arg Lys Lys Glu Thr Lys Gly Arg Glu Val
 465 470 475 480
 Arg Phe Gly Lys Arg Ser Asp Lys Phe Cys Ser Ser Glu Ser Glu Ser
 485 490 495
 Glu Ser Ser Glu Ser Gly Glu Asp Asp Arg Asp Ser Leu Gly Ser Ser
 500 505 510
 Gly Cys Leu Lys Gly Ser Pro Leu Val Leu Lys Asp Pro Ser Leu Phe
 515 520 525
 Ser Ser Leu Ser Ala Ser Ser Thr Ser Ser His Gly Ser Ser Ala Ala
 530 535 540
 Gln Lys Gln Asn Asp Gln His Thr Lys His Trp Lys Thr Ile Ser Ser
 545 550 555 560
 Pro Ala Trp Ser Glu Val Ser Ser Leu Ser Asp Ser Thr Arg Thr Arg
 565 570 575
 Leu Thr Ser Glu Ser Asp Tyr Ser Ser Glu Gly Ser Ser Val Glu Ser
 580 585 590
 Leu Lys Pro Val Arg Lys Arg Gln Glu His Arg Lys Arg Ala Ser Leu
 595 600 605

Ser Glu Lys Lys Ser Pro Phe Leu Ser Ser Ala Glu Gly Ala Val Pro
 610 615 620

Lys Leu Asp Lys Glu Gly Lys Val Val Lys Lys His Lys Thr Lys His
 625 630 635 640

Lys His Lys Asn Lys Glu Lys Ile Ser Gln Glu Leu Lys Leu Lys Ser
 645 650 655

Phe Thr Tyr Glu Tyr Glu Asp Ser Lys Gln Lys Ser Asp Lys Ala Ile
 660 665 670

Leu Leu Glu Asn Asp Leu Ser Thr Glu Asn Lys Leu Lys Val Leu Lys
 675 680 685

His Asp Arg Asp His Phe Lys Lys Glu Glu Lys Leu Ser Lys Met Lys
 690 695 700

Leu Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Lys Ser Leu Lys Arg
 705 710 715 720

Ile Lys Asp Lys Leu Arg Leu Tyr Lys Glu Glu Arg Asp Lys Ile Ser
 725 730 735

Lys Glu Lys Glu Lys Ile Phe Lys Glu Asp Lys Glu Lys Leu Lys Lys
 740 745 750

Glu Lys Val Tyr Arg Glu Asp Ser Leu Ser Asp Arg Asp Ser Ser Phe
 755 760 765

Asp Phe Lys Gly Ala Lys Leu Ile Leu Glu Thr Val Lys Glu Asp Ser
 770 775 780

Lys Glu Arg Arg Arg Asp Ser Arg Ala Arg Glu Lys His Pro Ala Arg
 785 790 795 800

Glu Lys Glu Lys Pro Asp Lys Arg Lys Arg Tyr Lys Glu Lys Asp Lys
 805 810 815

Asp Lys Ser Glu Lys Ser Ile Leu Glu Lys Cys Gln Lys Asp Lys Glu
 820 825 830

Lys Lys Glu Lys His Lys Asp Thr His Gly Lys Asp Lys Glu Arg Lys
 835 840 845

Ala Ser Val Phe Glu Lys His Lys Glu Lys Lys Asp Lys Glu Ser Thr
 850 855 860

Glu Lys Tyr Lys Asp Arg Ala Ser Val Asp Ser Thr Gln Asp Lys Lys
 865 870 875 880

Asn Lys Gln Glu Lys Ala Glu Lys Lys His Ala Ala Glu Asp Lys Ala
 885 890 895

Lys Ser Lys His Lys Glu Lys Ser Asp Lys Glu His Ser Lys Glu Arg
 900 905 910

Lys Ser Ser Arg Ser Ala Asp Ala Glu Tyr Arg Glu Ser Glu Val Ser
 915 920 925

Ser Asp Ser Phe Thr Asp Arg Glu Asp Asp Lys Ser Ala Cys Leu Pro
 930 935 940

Glu Lys Leu Lys Glu Lys Arg His Arg His Ser Ser Ser Ser Ser Lys
 945 950 955 960

Lys Ser His Asp Arg Glu Glu Lys Lys Glu Asp Tyr Lys Glu Gly Arg
 965 970 975

Lys Gly Gln Tyr Glu Lys Asp Leu Glu Ala Asp Ala Tyr Gly Val Ser
 980 985 990

Tyr Asn Met Lys Ala Ile Glu Leu Phe Glu Lys Lys Asp Lys Asn Asp
 995 1000 1005

Glu Pro Leu Lys Glu Lys Lys Lys Arg Glu Lys His Arg Glu Lys Trp
 1010 1015 1020

Arg Asp Glu Lys Glu Arg His Arg Asp Arg His Ala Asp Arg Pro Lys
 1025 1030 1035 1040

Pro Ser Lys Asp Pro Gly Lys Lys Asp Ala Arg Pro Arg Glu Lys Leu
 1045 1050 1055

Leu Gly Asp Gly Asp Leu Met Met Thr Ser Phe Glu Arg Met Leu Ser
 1060 1065 1070

Gln Lys Asp Leu Glu Ile Glu Glu Arg His Lys Arg His Lys Glu Arg
 1075 1080 1085

Met Lys Gln Met Glu Lys Leu Arg His Arg Ser Gly Asp Pro Lys Leu
 1090 1095 1100

Lys Glu Lys Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Asp
 1105 1110 1115 1120

Ile Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys		
1125	1130	1135
Lys Leu Lys Glu Ser Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Leu		
1140	1145	1150
His Pro Ala Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His		
1155	1160	1165
Met Lys Glu Val Leu Pro Ala Ser Pro Arg Pro Asp Gln Ser Arg Pro		
1170	1175	1180
Thr Gly Val Pro Thr Pro Thr Ser Val Leu Ser Cys Pro Ser Tyr Glu		
1185	1190	1195 1200
Glu Val Met His Thr Pro Arg Thr Pro Ser Cys Ser Ala Asp Asp Tyr		
1205	1210	1215
Ala Asp Leu Val Phe Asp Cys Ala Asp Ser Gln His Ser Thr Pro Val		
1220	1225	1230
Pro Thr Ala Pro Thr Ser Ala Cys Ser Pro Ser Phe Phe Asp Arg Phe		
1235	1240	1245
Ser Val Ala Ser Ser Gly Leu Ser Glu Asn Ala Ser Gln Ala Pro Ala		
1250	1255	1260
Arg Pro Leu Ser Thr Asn Leu Tyr Arg Ser Val Ser Val Asp Ile Asp		
1265	1270	1275 1280
Lys Leu Phe Arg Gln Gln Ser Val Pro Ala Ala Ser Ser Tyr Asp Ser		
1285	1290	1295
Pro Met Pro Pro Ser Met Glu Asp Arg Ala Pro Leu Pro Pro Val Pro		
1300	1305	1310
Ala Glu Lys Phe Ala Cys Leu Ser Pro Gly Tyr Tyr Ser Pro Asp Tyr		
1315	1320	1325
Gly Leu Pro Ser Pro Lys Val Asp Ala Leu His Cys Pro Pro Ala Ala		
1330	1335	1340
Val Val Thr Val Thr Pro Ser Pro Glu Gly Val Phe Ser Ser Leu Gln		
1345	1350	1355 1360
Ala Lys Pro Ser Pro Ser Pro Pro Ser Leu Asp Thr Ser Glu Asp Gln		
1365	1370	1375

Gln Ala Thr Ala Ala Ile Ile Pro Pro Glu Pro Ser Tyr Leu Glu Pro
 1380 1385 1390

Leu Asp Glu Gly Pro Phe Ser Ala Val Ile Thr Glu Glu Pro Val Glu
 1395 1400 1405

Trp Ala His Pro Ser Glu Gln Ala Leu Ala Ser Ser Leu Ile Gly Gly
 1410 1415 1420

Thr Ser Glu Asn Pro Val Ser Trp Pro Val Gly Ser Asp Leu Leu Leu
 1425 1430 1435 1440

Lys Ser Pro Gln Arg Phe Pro Glu Ser Pro Lys Arg Phe Cys Pro Ala
 1445 1450 1455

Asp Pro Leu His Ser Ala Ala Pro Gly Pro Phe Ser Ala Ser Glu Ala
 1460 1465 1470

Pro Tyr Pro Ala Pro Pro Ala Ser Pro Ala Pro Tyr Ala Leu Pro Val
 1475 1480 1485

Ala Glu Leu Glu Asp Val Lys Asp Val Pro Ala Ala Ile Ser Thr Ser
 1490 1495 1500

Glu Ala Ala Pro Tyr Ala Pro Pro Ser Gly Leu Glu Ser Phe Phe Ser
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Asn Cys Lys Ser Leu Pro Glu Ala Pro Leu Asp Val Ala Pro Glu Ala
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Leu Gly Pro Leu Glu Asn Ser Phe Leu Asp Gly Ser Arg Gly Leu Ser
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His Leu Gly Gln Val Glu Pro Val Pro Trp Ala Asp Ala Phe Ala Gly
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Pro Glu Asp Asp Leu Asp Leu Gly Pro Phe Ser Leu Pro Glu Leu Pro
 1570 1575 1580

Leu Gln Thr Lys Asp Ala Ala Asp Gly Glu Ala Glu Pro Val Glu Glu
 1585 1590 1595 1600

Ser Leu Ala Pro Pro Glu Glu Met Pro Pro Gly Ala Pro Arg Glu Leu
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Glu Pro Glu Pro Ser Gly Glu Pro Lys Leu Asp Val Ala Leu Glu Ala
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Ala Val Glu Ala Glu Thr Val Pro Glu Glu Arg Ala Arg Gly Asp Pro
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Asp Ser Ser Val Glu Pro Ala Pro Val Pro Pro Glu Gln Leu Gly Ser
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Gly Asp Pro Ser Leu Cys Ala Pro Asp Gly Pro Ala Pro Asn Thr Val
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Ala Gln Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu
 1685 1690 1695

Ala Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gln Pro Glu
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Ala Ala Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg Glu
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Ile Pro Gln Arg Met Thr Arg Asn Arg Ala Gln Met Leu Ala Asn Gln
 1730 1735 1740

Ser Lys Gln Gly Pro Pro Pro Ser Glu Lys Glu Cys Ala Pro Thr Pro
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Ala Pro Val Thr Arg Ala Lys Ala Arg Gly Ser Glu Asp Asp Asp Ala
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Gln Ala Gln His Pro Arg Lys Arg Arg Phe Gln Arg Ser Thr Gln Gln
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Leu Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln Gln
 1795 1800 1805

Thr Leu Ala Ala Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Glu Pro
 1810 1815 1820

Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Tyr Leu Gln Ile Arg
 1825 1830 1835 1840

Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro Gln
 1845 1850 1855

Ala Pro Gln Cys Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr Leu
 1860 1865 1870

Leu Asp Gly Lys Pro Leu Ser Lys Leu His Ile Pro Val Ile Ala Pro
 1875 1880 1885

Pro Pro Ser Leu Ala Glu Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu
 1890 1895 1900

Ala Val Arg Gly Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys
 1905 1910 1915 1920

Leu Ile Val Ser Cys Glu Gln Glu Ile Leu Arg Val His Cys Arg Ala
 1925 1930 1935

Ala Arg Thr Ile Ala Asn Gln Ala Val Pro Phe Ser Ala Cys Thr Met
 1940 1945 1950

Leu Leu Asp Ser Glu Val Tyr Asn Met Pro Leu Glu Ser Gln Gly Asp
 1955 1960 1965

Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Ile Ser
 1970 1975 1980

Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg Met Lys Val Cys Leu
 1985 1990 1995 2000

Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg
 2005 2010 2015

Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp Pro Ala Gly His Lys
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Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr Val Pro Met Val Asp
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Val Asn Asp Asp Phe Val Leu Leu Pro Ala
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<211> 1749

<212> DNA

<213> Homo sapiens

<400> 21

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<210> 22

<211> 492

<212> PRT

<213> *Homo sapiens*

<400> 22

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Leu Gly Phe Trp Lys Asp Arg Tyr Leu Leu Leu Cys Gln Ala Gln Leu
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Leu Val Tyr Glu Asn Glu Asp Asp Gln Lys Cys Val Glu Thr Val Glu
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Leu Gly Ser Tyr Glu Lys Cys Gln Asp Leu Arg Ala Leu Leu Lys Arg
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Lys His Arg Phe Ile Leu Leu Arg Ser Pro Gly Asn Lys Val Ser Asp
      85                      90                      95

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Ile	Lys	Phe	Gln	Ala	Pro	Thr	Gly	Glu	Glu	Lys	Glu	Ser	Trp	Ile	Lys	100	105	110
Ala	Leu	Asn	Glu	Gly	Ile	Asn	Arg	Gly	Lys	Asn	Lys	Ala	Phe	Asp	Glu	115	120	125
Val	Lys	Val	Asp	Lys	Ser	Cys	Ala	Leu	Glu	His	Val	Thr	Arg	Asp	Arg	130	135	140
Val	Arg	Gly	Gly	Gln	Arg	Arg	Arg	Pro	Pro	Thr	Arg	Val	His	Leu	Lys	145	150	155
Glu	Val	Ala	Ser	Ala	Ala	Ser	Asp	Gly	Leu	Leu	Arg	Leu	Asp	Leu	Asp	165	170	175
Val	Pro	Asp	Ser	Gly	Pro	Pro	Val	Phe	Ala	Pro	Ser	Asn	His	Val	Ser	180	185	190
Glu	Ala	Gln	Pro	Arg	Glu	Thr	Pro	Arg	Pro	Leu	Met	Pro	Pro	Thr	Lys	195	200	205
Pro	Phe	Leu	Ala	Pro	Glu	Thr	Thr	Ser	Pro	Gly	Asp	Arg	Val	Glu	Thr	210	215	220
Pro	Val	Gly	Glu	Arg	Ala	Pro	Thr	Pro	Val	Ser	Ala	Ser	Ser	Glu	Val	225	230	235
Ser	Pro	Glu	Ser	Gln	Glu	Asp	Ser	Glu	Thr	Pro	Ala	Glu	Glu	Asp	Ser	245	250	255
Gly	Ser	Glu	Gln	Pro	Pro	Asn	Ser	Val	Leu	Pro	Asp	Lys	Leu	Lys	Val	260	265	270
Ser	Trp	Glu	Asn	Pro	Ser	Pro	Gln	Glu	Ala	Pro	Ala	Ala	Glu	Ser	Ala	275	280	285
Glu	Pro	Ser	Gln	Ala	Pro	Cys	Ser	Glu	Thr	Ser	Glu	Ala	Ala	Pro	Arg	290	295	300
Glu	Gly	Gly	Lys	Pro	Pro	Thr	Pro	Pro	Pro	Lys	Ile	Leu	Ser	Glu	Glu	305	310	315
His	Leu	Lys	Ala	Ser	Met	Gly	Glu	Met	Gln	Ala	Ser	Gly	Pro	Pro	Ala	325	330	335
Pro	Gly	Thr	Val	Lys	Gly	Leu	Ser	Gln	Met	Ala	Arg	Met	Glu	Gly	Leu	340	345	350

Ser Ile Ala Lys His Ser Lys Ala Glu Gly Thr Gln Arg Thr Ser Pro
 355 360 365

Lys Asp Ala Leu Thr His Gln Ala Leu Pro Pro Trp Asp Leu Pro Pro
 370 375 380

Gln Phe His His Arg Cys Ser Ser Leu Gly Asp Leu Leu Gly Glu Gly
 385 390 395 400

Pro Arg His Pro Leu Gln Pro Arg Gln Arg Leu Tyr Arg Ala Gln Leu
 405 410 415

Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu Asn Lys Val
 420 425 430

Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu Leu Ser Gln
 435 440 445

Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln Glu Met Arg
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Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg Glu Lys Arg
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Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro
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<210> 23

<211> 1491

<212> DNA

<213> Homo sapiens

<400> 23

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 gcggccccc ggcgggagct ggtactgttt gacaagcca cccggggcac ctccatcaag 480
 gaattccggg agatgaccct cggttctctc aaggcgaacc tgggagacct gccttccttg 540
 ccggcgctgg ttggccaggt cctgctcatg gctgacttca acaaggacaa ccgggtgtcc 600
 ctggcggaag ccaagtccgt gtgggcccctg ctgcagcgta acgagttcct gctgctgctg 660
 tcctgcagg agaaggagca cgctccaga ctgctgggct actgtgggga cctctacctc 720
 accgagggcg tgccgcatgg cgctggcac gggcgccccc ttccaccct gttgcgcca 780
 ctgctgccgc ctgccctgca ggggtgctctc cagcagtggc tggggcctgc gtggccttg 840

cgggccaaga tcgccatcgg cctgctggag ttcgtggagg agctcttcca cggctcttac 900
 gggactttct acatgtgtga gaccacactg gccaacgtgg gctacacagc cacctacgac 960
 ttcaagatgg ccgacctgca gcaggtggca cccgaggcca ccgtgcgccg cttcctgcag 1020
 ggccgccgct gcgagcacag caccgactgc acctacgggc gcgactgcag ggccccgtgt 1080
 gacaggctca tgaggcagtgc caagggcgac ctcatccagc ccaacctggc caaggtgtgc 1140
 gcactgctac ggggctacct gctgcctggc gcgcccgcgc acctccgcga ggagctgggc 1200
 acacagctgc gcacctgtac cacgctgagc gggctggcca gccaggtgga ggcccatcac 1260
 tcgctgggtgc tcagccacct caagactctg ctctggaaga agatctccaa caccaagtac 1320
 tcttgatggg gcagtgaggg gcctggccac ccttcctgga gctggccagg tgccagggtc 1380
 caaccctccc tcaaggagag tcctccaagg gggtttgtaa ctctgaagaa cgtaatgtca 1440
 ataaacagct tttatgtaat gcccagggct gagcaccctg agcccccatc a 1491

<210> 24

<211> 431

<212> PRT

<213> Homo sapiens

<400> 24

Met Arg Arg Leu Arg Arg Leu Ala His Leu Val Leu Phe Cys Pro Phe
 1 5 10 15

Ser Lys Arg Leu Gln Gly Arg Leu Pro Gly Leu Arg Val Arg Cys Ile
 20 25 30

Phe Leu Ala Trp Leu Gly Val Phe Ala Gly Ser Trp Leu Val Tyr Val
 35 40 45

His Tyr Ser Ser Tyr Ser Glu Arg Cys Arg Gly His Val Cys Gln Val
 50 55 60

Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser Gly Ser Val Cys
 65 70 75 80

Gln Asp Leu Cys Glu Leu His Met Val Glu Trp Arg Thr Cys Leu Ser
 85 90 95

Val Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp Arg Asp Lys Asp
 100 105 110

Val Thr Ile Lys Cys Gly Ile Glu Glu Thr Leu Asp Ser Lys Ala Arg
 115 120 125

Ser Asp Ala Ala Pro Arg Arg Glu Leu Val Leu Phe Asp Lys Pro Thr
 130 135 140

Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr Leu Gly Phe Leu
 145 150 155 160

Lys	Ala	Asn	Leu	Gly	Asp	Leu	Pro	Ser	Leu	Pro	Ala	Leu	Val	Gly	Gln	165	170	175	
Val	Leu	Leu	Met	Ala	Asp	Phe	Asn	Lys	Asp	Asn	Arg	Val	Ser	Leu	Ala	180	185	190	
Glu	Ala	Lys	Ser	Val	Trp	Ala	Leu	Leu	Gln	Arg	Asn	Glu	Phe	Leu	Leu	195	200	205	
Leu	Leu	Ser	Leu	Gln	Glu	Lys	Glu	His	Ala	Ser	Arg	Leu	Leu	Gly	Tyr	210	215	220	
Cys	Gly	Asp	Leu	Tyr	Leu	Thr	Glu	Gly	Val	Pro	His	Gly	Ala	Trp	His	225	230	235	240
Ala	Ala	Ala	Leu	Pro	Pro	Leu	Leu	Arg	Pro	Leu	Leu	Pro	Pro	Ala	Leu	245	250	255	
Gln	Gly	Ala	Leu	Gln	Gln	Trp	Leu	Gly	Pro	Ala	Trp	Pro	Trp	Arg	Ala	260	265	270	
Lys	Ile	Ala	Ile	Gly	Leu	Leu	Glu	Phe	Val	Glu	Glu	Leu	Phe	His	Gly	275	280	285	
Ser	Tyr	Gly	Thr	Phe	Tyr	Met	Cys	Glu	Thr	Thr	Leu	Ala	Asn	Val	Gly	290	295	300	
Tyr	Thr	Ala	Thr	Tyr	Asp	Phe	Lys	Met	Ala	Asp	Leu	Gln	Gln	Val	Ala	305	310	315	320
Pro	Glu	Ala	Thr	Val	Arg	Arg	Phe	Leu	Gln	Gly	Arg	Arg	Cys	Glu	His	325	330	335	
Ser	Thr	Asp	Cys	Thr	Tyr	Gly	Arg	Asp	Cys	Arg	Ala	Pro	Cys	Asp	Arg	340	345	350	
Leu	Met	Arg	Gln	Cys	Lys	Gly	Asp	Leu	Ile	Gln	Pro	Asn	Leu	Ala	Lys	355	360	365	
Val	Cys	Ala	Leu	Leu	Arg	Gly	Tyr	Leu	Leu	Pro	Gly	Ala	Pro	Ala	Asp	370	375	380	
Leu	Arg	Glu	Glu	Leu	Gly	Thr	Gln	Leu	Arg	Thr	Cys	Thr	Thr	Leu	Ser	385	390	395	400
Gly	Leu	Ala	Ser	Gln	Val	Glu	Ala	His	His	Ser	Leu	Val	Leu	Ser	His	405	410	415	

Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Asn Thr Lys Tyr Ser
 420 425 430

<210> 25
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 25
 tagagatgga tggaaccaat ggcagcaccc aaaccattt catcctactg ggattctctg 60
 accgacccca tctggagagg atcctctttg tggtcaccc gatcgcgtag ctccctgaccc 120
 tctgtaggcaa caccaccatc atcctgggtg cccggctgga ccccccaccc cacaccccca 180
 tgtacttctt cctcgccac ctttccttcc tggacctcag tttcaccacc agctccatcc 240
 cccagctgct ctacaacctt aatggatgtg acaagaccat cagctacatg ggctgtgcca 300
 tccagctctt cctgttctctg ggtctgggtg gtgtggagt cctgcttctg gctgtcatgg 360
 cctatgaccg gtgtgtggct atctgcaagc cctgcacta catggtgatc atgaacccca 420
 ggctctgccc gggcttggtg tcagtaccc ggggctgtgg ggtggccaac tccttgcca 480
 tgtctcctgt gacctgccc ttaccccgct gtgggcacca cgagggtggac cacttcctgc 540
 gtgagatgcc cgccctgatc cggatggcct gcgtcagcac tgtggccatc gaaggcaccg 600
 tctttgtcct gaaaaaagggt gttgtgctgt ccccttgggt gtttatcctg ctctcttaca 660
 gctacattgt gagggctgtg ttacaaattc ggtcagcatc aggaaggcag aaggccttcg 720
 gcacctgccc ctcccatctc actgtggtct cccttttcta tggaaacatc atctacatgt 780
 acatgcagcc aggagccagt tcttcccagg accagggcat gttcctcatg ctctcttaca 840
 acattgtcac cccctcctc aatcctctca tctacacct cagaaacaga gaggtgaagg 900
 gggcactggg aagggtgctt ctggggaaga gagagctagg aaaggagtaa aggcattccc 960
 acctgacttc acttccatcc agggccactg gcagcatctg gaacggctga attccagctg 1020
 atattagccc acgactccca acttgccctt ttctggactt tt 1062

<210> 26
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 26
 Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30
 Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45
 Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

His	Leu	Ser	Phe	Leu	Asp	Leu	Ser	Phe	Thr	Thr	Ser	Ser	Ile	Pro	Gln	65	70	75	80
Leu	Leu	Tyr	Asn	Leu	Asn	Gly	Cys	Asp	Lys	Thr	Ile	Ser	Tyr	Met	Gly	85	90	95	
Cys	Ala	Ile	Gln	Leu	Phe	Leu	Phe	Leu	Gly	Leu	Gly	Gly	Val	Glu	Cys	100	105	110	
Leu	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Cys	Val	Ala	Ile	Cys	Lys	115	120	125	
Pro	Leu	His	Tyr	Met	Val	Ile	Met	Asn	Pro	Arg	Leu	Cys	Arg	Gly	Leu	130	135	140	
Val	Ser	Val	Thr	Trp	Gly	Cys	Gly	Val	Ala	Asn	Ser	Leu	Ala	Met	Ser	145	150	155	160
Pro	Val	Thr	Leu	Arg	Leu	Pro	Arg	Cys	Gly	His	His	Glu	Val	Asp	His	165	170	175	
Phe	Leu	Arg	Glu	Met	Pro	Ala	Leu	Ile	Arg	Met	Ala	Cys	Val	Ser	Thr	180	185	190	
Val	Ala	Ile	Glu	Gly	Thr	Val	Phe	Val	Leu	Lys	Lys	Gly	Val	Val	Leu	195	200	205	
Ser	Pro	Leu	Val	Phe	Ile	Leu	Leu	Ser	Tyr	Ser	Tyr	Ile	Val	Arg	Ala	210	215	220	
Val	Leu	Gln	Ile	Arg	Ser	Ala	Ser	Gly	Arg	Gln	Lys	Ala	Phe	Gly	Thr	225	230	235	240
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Leu	Phe	Tyr	Gly	Asn	Ile	Ile	245	250	255	
Tyr	Met	Tyr	Met	Gln	Pro	Gly	Ala	Ser	Ser	Ser	Gln	Asp	Gln	Gly	Met	260	265	270	
Phe	Leu	Met	Leu	Phe	Tyr	Asn	Ile	Val	Thr	Pro	Leu	Leu	Asn	Pro	Leu	275	280	285	
Ile	Tyr	Thr	Leu	Arg	Asn	Arg	Glu	Val	Lys	Gly	Ala	Leu	Gly	Arg	Leu	290	295	300	
Leu	Leu	Gly	Lys	Arg	Glu	Leu	Gly	Lys	Glu	305	310								

<210> 27
 <211> 1062
 <212> DNA
 <213> Homo sapiens

<400> 27
 tagagatgga tggaaaccaat ggcagcaccc aaaccattt catcctactg ggattctctg 60
 accgacccca tctggagagg atcctctttg tggtcatacct gatcgcgtag ctcttgaccc 120
 tcgtaggcaa caccaccatc atcctggtgt cccggctgga ccccccacctc cacaccccca 180
 tgtacttctt cctcgccac ctttccttcc tggacctcag ttccaccacc agctccatcc 240
 cccagctgct ctacaacctt aatggatgtg acaagaccat cagctacatg ggctgtgcca 300
 tccagctctt cctgttcctg ggtctgggtg gtgtggagtg cctgcttctg gctgtcatgg 360
 cctatgaccg gtgtgtggct atctgcaagc ccctgcacta catggtgatc atgaacccca 420
 ggctctgccc gggcttgggt tcagtgcact ggggctgtgg ggtggccaac tccttggcca 480
 tgtctcctgt gaccctgccc ttaccccgtc gtgggcacca cgaggtggac cacttcctgc 540
 gtgagatgcc cgccctgatc cggatggcct gcgtcagcac tgtggccatc gacggcaccg 600
 tctttgtcct ggcggtgggt gttgtgctgt ccccttgggt gtttatcctg ctctcttaca 660
 gctacattgt gagggctgtg ttacaaattc ggtcagcatc aggaaggcag aaggccttcg 720
 gcacctgccc ctcccatctc actgtggtct cctttttcta tggaaacatc atctacatgt 780
 acatgcagcc aggagccagt tcttcccagg accagggcat gttcctcatg ctcttctaca 840
 acattgtcac cccctcctc aatcctctca tctacacctc cagaaacaga gaggtgaagg 900
 gggcactggg aaggttgctt ttggggaaga gagagctagg aaaggagtaa aggcattctc 960
 acctgacttc acttccatcc agggccactg gcagcatctg gaacggctga attccagctg 1020
 atattagccc acgactccca acttgccctt ttctggactt tt 1062

<210> 28
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 28
 Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
 20 25 30
 Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
 35 40 45
 Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60
 His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
 85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
 130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
 145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
 165 170 175

Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr
 180 185 190

Val Ala Ile Asp Gly Thr Val Phe Val Leu Ala Val Gly Val Val Leu
 195 200 205

Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala
 210 215 220

Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile
 245 250 255

Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met
 260 265 270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu
 290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu
 305 310

<210> 29

<211> 624
 <212> DNA
 <213> Homo sapiens

<400> 29
 ctttgagctt ctctgactgc tgaccactga cccaccgact tgatgacagc accctcgtgt 60
 gccttcccag ttcaaaccg gcagccctca gtcagcggcc tctcgagat aacaaaaagc 120
 ctgtatatca gcaatggtgt ggccgccaac aacaagctca tgctgtctag caaccagatc 180
 accatggtca tcaatgtctc agtggaggta gtgaacacct tgtatgagga tatccagtac 240
 atgcaggtac ctgtggctga ctcccctaac tcacgtctct gtgacttctt tgaccctatt 300
 gctgaccata tccacagcgt ggagatgaag cagggccgta ctttgctgca ctgtgctgct 360
 ggtgtgagcc gctcagctgc cctgtgcctc gcctacctca tgaagtacca cgccatgtcc 420
 ctgctggacg cccacacgtg gaccaagtca tgccggccca tcatccgacc caacagcggc 480
 ttttgggagc agctcatcca ctatgagttc caattgtttg gcaagaacac tgtgcacatg 540
 gtcagttccc cagtgggaat gatccctgac atctatgaga aggaagtccg tttgatgatt 600
 ccactgtgag ccatcccacg agcc 624

<210> 30
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 30
 Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Ile Arg Gln Pro Ser
 1 5 10 15
 Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly
 20 25 30
 Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met
 35 40 45
 Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile
 50 55 60
 Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys
 65 70 75 80
 Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys
 85 90 95
 Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
 100 105 110
 Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu
 115 120 125

Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
 130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly
 145 150 155 160

Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp
 165 170 175

Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu
 180 185

<210> 31

<211> 1034

<212> PRT

<213> Mus musculus

<400> 31

Met Pro Leu Cys Pro Leu Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr
 1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser
 20 25 30

Phe Thr Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu
 35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala
 50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met
 65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg
 85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys
 100 105 110

Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp
 115 120 125

Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys
 130 135 140

Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Ala
 145 150 155 160

Cys Phe Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln Pro Cys
 165 170 175

Pro Ala Gly His Tyr Gly Pro Ala Cys Gln Phe Asp Cys Gln Cys Tyr
 180 185 190

Gly Ala Ser Cys Asp Pro Gln Asp Gly Ala Cys Phe Cys Pro Pro Gly
 195 200 205

Arg Ala Gly Pro Ser Cys Asn Val Pro Cys Ser Gln Gly Thr Asp Gly
 210 215 220

Phe Phe Cys Pro Arg Thr Tyr Pro Cys Gln Asn Gly Gly Val Pro Gln
 225 230 235 240

Gly Ser Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly Val Ile
 245 250 255

Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys Thr Gln
 260 265 270

Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln
 275 280 285

Cys His Cys Ala Pro Gly Tyr Ile Gly Asp Arg Cys Gln Glu Glu Cys
 290 295 300

Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala
 305 310 315 320

Pro Gly Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His
 325 330 335

Gly Phe Thr Gly Asp Arg Cys Thr Glu Arg Leu Cys Pro Asp Gly Arg
 340 345 350

Tyr Gly Leu Ser Cys Gln Glu Pro Cys Thr Cys Asp Pro Glu His Ser
 355 360 365

Leu Ser Cys His Pro Met His Gly Glu Cys Ser Cys Gln Pro Gly Trp
 370 375 380

Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro
 385 390 395 400

Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Leu Cys Leu Ala
 405 410 415

Asp Ser Gly Leu Cys Arg Cys Ala Pro Gly Tyr Thr Gly Pro His Cys	420	425	430
Ala Asn Leu Cys Pro Pro Asp Thr Tyr Gly Ile Asn Cys Ser Ser Arg	435	440	445
Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Thr Cys	450	455	460
Ile Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro	465	470	475
Leu Gly Thr Trp Gly Phe Asn Cys Asn Ala Ser Cys Gln Cys Ala His	485	490	495
Asp Gly Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly	500	505	510
Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly	515	520	525
Glu Gly Cys Ala Ser Val Cys Asp Cys Asp His Ser Asp Gly Cys Asp	530	535	540
Pro Val His Gly Gln Cys Arg Cys Gln Ala Gly Trp Met Gly Thr Arg	545	550	555
Cys His Leu Pro Cys Pro Glu Gly Phe Trp Gly Ala Asn Cys Ser Asn	565	570	575
Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Val Ser Glu Asn Gly Asn	580	585	590
Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Pro Cys	595	600	605
Pro Pro Gly Arg Tyr Gly Lys Arg Cys Val Gln Cys Lys Cys Asn Asn	610	615	620
Asn His Ser Ser Cys His Pro Ser Asp Gly Thr Cys Ser Cys Leu Ala	625	630	635
Gly Trp Thr Gly Pro Asp Cys Ser Glu Ala Cys Pro Pro Gly His Trp	645	650	655
Gly Leu Lys Cys Ser Gln Leu Cys Gln Cys His His Gly Gly Thr Cys	660	665	670

Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met
 930 935 940

Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg
 945 950 955 960

Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr
 965 970 975

Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr
 980 985 990

Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly Gln Tyr Asp Ser Pro Lys
 995 1000 1005

Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro
 1010 1015 1020

Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg
 1025 1030

<210> 32

<211> 1034

<212> PRT

<213> Mus musculus

<400> 32

Met Pro Leu Cys Pro Leu Leu Leu Leu Ala Leu Gly Leu Arg Leu Thr
 1 5 10 15

Gly Thr Leu Asn Ser Asn Asp Pro Asn Val Cys Thr Phe Trp Glu Ser
 20 25 30

Phe Thr Thr Thr Thr Lys Glu Ser His Leu Arg Pro Phe Ser Leu Leu
 35 40 45

Pro Ala Glu Ser Cys His Arg Pro Trp Glu Asp Pro His Thr Cys Ala
 50 55 60

Gln Pro Thr Val Val Tyr Arg Thr Val Tyr Arg Gln Val Val Lys Met
 65 70 75 80

Asp Ser Arg Pro Arg Leu Gln Cys Cys Arg Gly Tyr Tyr Glu Ser Arg
 85 90 95

Gly Ala Cys Val Pro Leu Cys Ala Gln Glu Cys Val His Gly Arg Cys

100	105	110
Val Ala Pro Asn Gln Cys Gln Cys Ala Pro Gly Trp Arg Gly Gly Asp		
115	120	125
Cys Ser Ser Glu Cys Ala Pro Gly Met Trp Gly Pro Gln Cys Asp Lys		
130	135	140
Phe Cys His Cys Gly Asn Asn Ser Ser Cys Asp Pro Lys Ser Gly Thr		
145	150	155
Cys Phe Cys Pro Ser Gly Leu Gln Pro Pro Asn Cys Leu Gln Pro Cys		
165	170	175
Pro Ala Gly His Tyr Gly Pro Ala Cys Gln Phe Asp Cys Gln Cys Tyr		
180	185	190
Gly Ala Ser Cys Asp Pro Gln Asp Gly Ala Cys Phe Cys Pro Pro Gly		
195	200	205
Arg Ala Gly Pro Ser Cys Asn Val Pro Cys Ser Gln Gly Thr Asp Gly		
210	215	220
Phe Phe Cys Pro Arg Thr Tyr Pro Cys Gln Asn Gly Gly Val Pro Gln		
225	230	235
Gly Ser Gln Gly Ser Cys Ser Cys Pro Pro Gly Trp Met Gly Val Ile		
245	250	255
Cys Ser Leu Pro Cys Pro Glu Gly Phe His Gly Pro Asn Cys Thr Gln		
260	265	270
Glu Cys Arg Cys His Asn Gly Gly Leu Cys Asp Arg Phe Thr Gly Gln		
275	280	285
Cys His Cys Ala Pro Gly Tyr Ile Gly Asp Arg Cys Gln Glu Glu Cys		
290	295	300
Pro Val Gly Arg Phe Gly Gln Asp Cys Ala Glu Thr Cys Asp Cys Ala		
305	310	315
Pro Gly Ala Arg Cys Phe Pro Ala Asn Gly Ala Cys Leu Cys Glu His		
325	330	335
Gly Phe Thr Gly Asp Arg Cys Thr Glu Arg Leu Cys Pro Asp Gly Arg		
340	345	350
Tyr Gly Leu Ser Cys Gln Glu Pro Cys Thr Cys Asp Pro Glu His Ser		

355		360		365
Leu Ser Cys His Pro Met His Gly Glu Cys Ser Cys Gln Pro Gly Trp				
370		375		380
Ala Gly Leu His Cys Asn Glu Ser Cys Pro Gln Asp Thr His Gly Pro				
385		390		395
				400
Gly Cys Gln Glu His Cys Leu Cys Leu His Gly Gly Leu Cys Leu Ala				
		405		410
				415
Asp Ser Gly Leu Cys Arg Cys Ala Pro Gly Tyr Thr Gly Pro His Cys				
		420		425
				430
Ala Asn Leu Cys Pro Pro Asp Thr Tyr Gly Ile Asn Cys Ser Ser Arg				
		435		440
				445
Cys Ser Cys Glu Asn Ala Ile Ala Cys Ser Pro Ile Asp Gly Thr Cys				
		450		455
				460
Ile Cys Lys Glu Gly Trp Gln Arg Gly Asn Cys Ser Val Pro Cys Pro				
		465		470
				475
				480
Leu Gly Thr Trp Gly Phe Asn Cys Asn Ala Ser Cys Gln Cys Ala His				
		485		490
				495
Asp Gly Val Cys Ser Pro Gln Thr Gly Ala Cys Thr Cys Thr Pro Gly				
		500		505
				510
Trp His Gly Ala His Cys Gln Leu Pro Cys Pro Lys Gly Gln Phe Gly				
		515		520
				525
Glu Gly Cys Ala Ser Val Cys Asp Cys Asp His Ser Asp Gly Cys Asp				
		530		535
				540
Pro Val His Gly Gln Cys Arg Cys Gln Ala Gly Trp Met Gly Thr Arg				
		545		550
				555
				560
Cys His Leu Pro Cys Pro Glu Gly Phe Trp Gly Ala Asn Cys Ser Asn				
		565		570
				575
Thr Cys Thr Cys Lys Asn Gly Gly Thr Cys Val Ser Glu Asn Gly Asn				
		580		585
				590
Cys Val Cys Ala Pro Gly Phe Arg Gly Pro Ser Cys Gln Arg Pro Cys				
		595		600
				605
Pro Pro Gly Arg Tyr Gly Lys Arg Cys Val Gln Cys Lys Cys Asn Asn				

610		615		620															
Asn His Ser Ser Cys His Pro Ser Asp Gly Thr Cys Ser Cys Leu Ala																			
625		630						635								640			
Gly Trp Thr Gly Pro Asp Cys Ser Glu Ala Cys Pro Pro Gly His Trp																			
		645						650								655			
Gly Leu Lys Cys Ser Gln Leu Cys Gln Cys His His Gly Gly Thr Cys																			
		660						665								670			
His Pro Gln Asp Gly Ser Cys Ile Cys Thr Pro Gly Trp Thr Gly Pro																			
		675						680								685			
Asn Cys Leu Glu Gly Cys Pro Pro Arg Met Phe Gly Val Asn Cys Ser																			
		690						695								700			
Gln Leu Cys Gln Cys Asp Leu Gly Glu Met Cys His Pro Glu Thr Gly																			
705						710										715			720
Ala Cys Val Cys Pro Pro Gly His Ser Gly Ala Asp Cys Lys Met Gly																			
						725										730			735
Ser Gln Glu Ser Phe Thr Ile Met Pro Thr Ser Pro Val Thr His Asn																			
		740																	750
Ser Leu Gly Ala Val Ile Gly Ile Ala Val Leu Gly Thr Leu Val Val																			
		755																	765
Ala Leu Ile Ala Leu Phe Ile Gly Tyr Arg Gln Trp Gln Lys Gly Lys																			
		770																	780
Glu His Glu His Leu Ala Val Ala Tyr Ser Thr Gly Arg Leu Asp Gly																			
785						790													800
Ser Asp Tyr Val Met Pro Asp Val Ser Pro Ser Tyr Ser His Tyr Tyr																			
						805													815
Ser Asn Pro Ser Tyr His Thr Leu Ser Gln Cys Ser Pro Asn Pro Pro																			
		820																	830
Pro Pro Asn Lys Val Pro Gly Ser Gln Leu Phe Val Ser Ser Gln Ala																			
		835																	845
Pro Glu Arg Pro Ser Arg Ala His Gly Arg Glu Asn His Val Thr Leu																			
		850																	860
Pro Ala Asp Trp Lys His Arg Arg Glu Pro His Glu Arg Gly Ala Ser																			

865		870		875		880
His Leu Asp Arg Ser Tyr Ser Cys Ser Tyr Ser His Arg Asn Gly Pro						
	885		890		895	
Gly Pro Phe Cys His Lys Gly Pro Ile Ser Glu Glu Gly Leu Gly Ala						
	900		905		910	
Ser Val Met Ser Leu Ser Ser Glu Asn Pro Tyr Ala Thr Ile Arg Asp						
	915		920		925	
Leu Pro Ser Leu Pro Gly Glu Pro Arg Glu Ser Gly Tyr Val Glu Met						
	930		935		940	
Lys Gly Pro Pro Ser Val Ser Pro Pro Arg Gln Ser Leu His Leu Arg						
945		950		955		960
Asp Arg Gln Gln Arg Gln Leu Gln Pro Gln Arg Asp Ser Gly Thr Tyr						
	965		970		975	
Glu Gln Pro Ser Pro Leu Ser His Asn Glu Glu Ser Leu Gly Ser Thr						
	980		985		990	
Pro Pro Leu Pro Pro Gly Leu Pro Pro Gly His Tyr Asp Ser Pro Lys						
	995		1000		1005	
Asn Ser His Ile Pro Gly His Tyr Asp Leu Pro Pro Val Arg His Pro						
1010		1015		1020		
Pro Ser Pro Pro Ser Arg Arg Gln Asp Arg						
1025		1030				

<210> 33

<211> 1140

<212> PRT

<213> Homo sapiens

<400> 33

Met Val Ile Ser Leu Asn Ser Cys Leu Ser Phe Ile Cys Leu Leu Leu
1 5 10 15

Cys His Trp Ile Gly Thr Ala Ser Pro Leu Asn Leu Glu Asp Pro Asn
20 25 30

Val Cys Ser His Trp Glu Ser Tyr Ser Val Thr Val Gln Glu Ser Tyr
35 40 45

Pro His Pro Phe Asp Gln Ile Tyr Tyr Thr Ser Cys Thr Asp Ile Leu
 50 55 60

Asn Trp Phe Lys Cys Thr Arg His Arg Val Ser Tyr Arg Thr Ala Tyr
 65 70 75 80

Arg His Gly Glu Lys Thr Met Tyr Arg Arg Lys Ser Gln Cys Cys Pro
 85 90 95

Gly Phe Tyr Glu Ser Gly Glu Met Cys Val Pro His Cys Ala Asp Lys
 100 105 110

Cys Val His Gly Arg Cys Ile Ala Pro Asn Thr Cys Gln Cys Glu Pro
 115 120 125

Gly Trp Gly Gly Thr Asn Cys Ser Ser Ala Cys Asp Gly Asp His Trp
 130 135 140

Gly Pro His Cys Thr Ser Arg Cys Gln Cys Lys Asn Gly Ala Leu Cys
 145 150 155 160

Asn Pro Ile Thr Gly Ala Cys His Cys Ala Ala Gly Phe Arg Gly Trp
 165 170 175

Arg Cys Glu Asp Arg Cys Glu Gln Gly Thr Tyr Gly Asn Asp Cys His
 180 185 190

Gln Arg Cys Gln Cys Gln Asn Gly Ala Thr Cys Asp His Val Thr Gly
 195 200 205

Glu Cys Arg Cys Pro Pro Gly Tyr Thr Gly Ala Phe Cys Glu Asp Leu
 210 215 220

Cys Pro Pro Gly Lys His Gly Pro Gln Cys Glu Gln Arg Cys Pro Cys
 225 230 235 240

Gln Asn Gly Gly Val Cys His His Val Thr Gly Glu Cys Ser Cys Pro
 245 250 255

Ser Gly Trp Met Gly Thr Val Cys Gly Gln Pro Cys Pro Glu Gly Arg
 260 265 270

Phe Gly Lys Asn Cys Ser Gln Glu Cys Gln Cys His Asn Gly Gly Thr
 275 280 285

Cys Asp Ala Ala Thr Gly Gln Cys His Cys Ser Pro Gly Tyr Thr Gly
 290 295 300

Glu Arg Cys Gln Asp Glu Cys Pro Val Gly Thr Tyr Gly Val Leu Cys
 305 310 315 320
 Ala Glu Thr Cys Gln Cys Val Asn Gly Gly Lys Cys Tyr His Val Ser
 325 330 335
 Gly Ala Cys Leu Cys Glu Ala Gly Phe Ala Gly Glu Arg Cys Glu Ala
 340 345 350
 Arg Leu Cys Pro Glu Gly Leu Tyr Gly Ile Lys Cys Asp Lys Arg Cys
 355 360 365
 Pro Cys His Leu Glu Asn Thr His Ser Cys His Pro Met Ser Gly Glu
 370 375 380
 Cys Ala Cys Lys Pro Gly Trp Ser Gly Leu Tyr Cys Asn Glu Thr Cys
 385 390 395 400
 Ser Pro Gly Phe Tyr Gly Glu Ala Cys Gln Gln Ile Cys Ser Cys Gln
 405 410 415
 Asn Gly Ala Asp Cys Asp Ser Val Thr Gly Lys Cys Thr Cys Ala Pro
 420 425 430
 Gly Phe Lys Gly Ile Asp Cys Ser Thr Pro Cys Pro Leu Gly Thr Tyr
 435 440 445
 Gly Ile Asn Cys Ser Ser Arg Cys Gly Cys Lys Asn Asp Ala Val Cys
 450 455 460
 Ser Pro Val Asp Gly Ser Cys Thr Cys Lys Ala Gly Trp His Gly Val
 465 470 475 480
 Asp Cys Ser Ile Arg Cys Pro Ser Gly Thr Trp Gly Phe Gly Cys Asn
 485 490 495
 Leu Thr Cys Gln Cys Leu Asn Gly Gly Ala Cys Asn Thr Leu Asp Gly
 500 505 510
 Thr Cys Thr Cys Ala Pro Gly Trp Arg Gly Glu Lys Cys Glu Leu Pro
 515 520 525
 Cys Gln Asp Gly Thr Tyr Gly Leu Asn Cys Ala Glu Arg Cys Asp Cys
 530 535 540
 Ser His Ala Asp Gly Cys His Pro Thr Thr Gly His Cys Arg Cys Leu
 545 550 555 560

Pro Gly Trp Ser Gly Val His Cys Asp Ser Val Cys Ala Glu Gly Arg
 565 570 575
 Trp Gly Pro Asn Cys Ser Leu Pro Cys Tyr Cys Lys Asn Gly Ala Ser
 580 585 590
 Cys Ser Pro Asp Asp Gly Ile Cys Glu Cys Ala Pro Gly Phe Arg Gly
 595 600 605
 Thr Thr Cys Gln Arg Ile Cys Ser Pro Gly Phe Tyr Gly His Arg Cys
 610 615 620
 Ser Gln Thr Cys Pro Gln Cys Val His Ser Ser Gly Pro Cys His His
 625 630 635 640
 Ile Thr Gly Leu Cys Asp Cys Leu Pro Gly Phe Thr Gly Ala Leu Cys
 645 650 655
 Asn Glu Val Cys Pro Ser Gly Arg Phe Gly Lys Asn Cys Ala Gly Ile
 660 665 670
 Cys Thr Cys Thr Asn Asn Gly Thr Cys Asn Pro Ile Asp Arg Ser Cys
 675 680 685
 Gln Cys Tyr Pro Gly Trp Ile Gly Ser Asp Cys Ser Gln Pro Cys Pro
 690 695 700
 Pro Ala His Trp Gly Pro Asn Cys Ile His Thr Cys Asn Cys His Asn
 705 710 715 720
 Gly Ala Phe Cys Ser Ala Tyr Asp Gly Glu Cys Lys Cys Thr Pro Gly
 725 730 735
 Trp Thr Gly Leu Tyr Cys Thr Gln Arg Cys Pro Leu Gly Phe Tyr Gly
 740 745 750
 Lys Asp Cys Ala Leu Ile Cys Gln Cys Gln Asn Gly Ala Asp Cys Asp
 755 760 765
 His Ile Ser Gly Gln Cys Thr Cys Arg Thr Gly Phe Met Gly Arg His
 770 775 780
 Cys Glu Gln Lys Cys Pro Ser Gly Thr Tyr Gly Tyr Gly Cys Arg Gln
 785 790 795 800
 Ile Cys Asp Cys Leu Asn Asn Ser Thr Cys Asp His Ile Thr Gly Thr
 805 810 815

Cys Tyr Cys Ser Pro Gly Trp Lys Gly Ala Arg Cys Asp Gln Ala Gly
 820 825 830

Val Ile Ile Val Gly Asn Leu Asn Ser Leu Ser Arg Thr Ser Thr Ala
 835 840 845

Leu Pro Ala Asp Ser Tyr Gln Ile Gly Ala Ile Ala Gly Ile Ile Ile
 850 855 860

Leu Val Leu Val Val Leu Phe Leu Leu Ala Leu Phe Ile Ile Tyr Arg
 865 870 875 880

His Lys Gln Lys Gly Lys Glu Ser Ser Met Pro Ala Val Thr Tyr Thr
 885 890 895

Pro Ala Met Arg Val Val Asn Ala Asp Tyr Thr Ile Ser Gly Thr Leu
 900 905 910

Pro His Ser Asn Gly Gly Asn Ala Asn Ser His Tyr Phe Thr Asn Pro
 915 920 925

Ser Tyr His Thr Leu Thr Gln Cys Ala Thr Ser Pro His Val Asn Asn
 930 935 940

Arg Asp Arg Met Thr Val Thr Lys Ser Lys Asn Asn Gln Leu Phe Val
 945 950 955 960

Asn Leu Lys Asn Val Asn Pro Gly Lys Arg Gly Pro Val Gly Asp Cys
 965 970 975

Thr Gly Thr Leu Pro Ala Asp Trp Lys His Gly Gly Tyr Leu Asn Glu
 980 985 990

Leu Gly Ala Phe Gly Leu Asp Arg Ser Tyr Met Gly Lys Ser Leu Lys
 995 1000 1005

Asp Leu Gly Lys Asn Ser Glu Tyr Asn Ser Ser Asn Cys Ser Leu Ser
 1010 1015 1020

Ser Ser Glu Asn Pro Tyr Ala Thr Ile Lys Asp Pro Pro Val Leu Ile
 1025 1030 1035 1040

Pro Lys Ser Ser Glu Cys Gly Tyr Val Glu Met Lys Ser Pro Ala Arg
 1045 1050 1055

Arg Asp Ser Pro Tyr Ala Glu Ile Asn Asn Ser Thr Ser Ala Asn Arg
 1060 1065 1070

Asn Val Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Gly Val Phe
 1075 1080 1085

Ser Asn Asn Gly Arg Leu Ser Gln Asp Pro Tyr Asp Leu Pro Lys Asn
 1090 1095 1100

Ser His Ile Pro Cys His Tyr Asp Leu Leu Pro Val Arg Asp Ser Ser
 1105 1110 1115 1120

Ser Ser Pro Lys Gln Glu Asp Ser Gly Gly Ser Ser Ser Asn Ser Ser
 1125 1130 1135

Ser Ser Ser Glu
 1140

<210> 34
 <211> 969
 <212> PRT
 <213> Homo sapiens

<400> 34
 Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser
 1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys
 20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly
 35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly
 50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn
 65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg
 85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu
 100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu
 115 120 125

Cys Leu Cys Ala Pro Gly Tyr Thr Gly Val Tyr Cys Glu Glu Leu Cys
 130 135 140

Pro	Pro	Gly	Ser	His	Gly	Ala	His	Cys	Glu	Leu	Arg	Cys	Pro	Cys	Gln	145	150	155	160
Asn	Gly	Gly	Thr	Cys	His	His	Ile	Thr	Gly	Glu	Cys	Ala	Cys	Pro	Pro	165	170	175	
Gly	Trp	Thr	Gly	Ala	Val	Cys	Ala	Gln	Pro	Cys	Pro	Pro	Gly	Thr	Phe	180	185	190	
Gly	Gln	Asn	Cys	Ser	Gln	Asp	Cys	Pro	Cys	His	His	Gly	Gly	Gln	Cys	195	200	205	
Asp	His	Val	Thr	Gly	Gln	Cys	His	Cys	Thr	Ala	Gly	Tyr	Met	Gly	Asp	210	215	220	
Arg	Cys	Gln	Glu	Glu	Cys	Pro	Phe	Gly	Ser	Phe	Gly	Phe	Gln	Cys	Ser	225	230	235	240
Gln	Arg	Cys	Asp	Cys	His	Asn	Gly	Gly	Gln	Cys	Ser	Pro	Thr	Thr	Gly	245	250	255	
Ala	Cys	Glu	Cys	Glu	Pro	Gly	Tyr	Lys	Gly	Pro	Arg	Cys	Gln	Glu	Arg	260	265	270	
Leu	Cys	Pro	Glu	Gly	Leu	His	Gly	Pro	Gly	Cys	Thr	Leu	Pro	Cys	Pro	275	280	285	
Cys	Asp	Ala	Asp	Asn	Thr	Ile	Ser	Cys	His	Pro	Val	Thr	Gly	Ala	Cys	290	295	300	
Thr	Cys	Gln	Pro	Gly	Trp	Ser	Gly	His	His	Cys	Asn	Glu	Ser	Cys	Pro	305	310	315	320
Val	Gly	Tyr	Tyr	Gly	Asp	Gly	Cys	Gln	Leu	Pro	Cys	Thr	Cys	Gln	Asn	325	330	335	
Gly	Ala	Asp	Cys	His	Ser	Ile	Thr	Gly	Gly	Cys	Thr	Cys	Ala	Pro	Gly	340	345	350	
Phe	Met	Gly	Glu	Val	Cys	Ala	Val	Ser	Cys	Ala	Ala	Gly	Thr	Tyr	Gly	355	360	365	
Pro	Asn	Cys	Ser	Ser	Ile	Cys	Ser	Cys	Asn	Asn	Gly	Gly	Thr	Cys	Ser	370	375	380	
Pro	Val	Asp	Gly	Ser	Cys	Thr	Cys	Lys	Glu	Gly	Trp	Gln	Gly	Leu	Asp	385	390	395	400

Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu
 405 410 415
 Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser
 420 425 430
 Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys
 435 440 445
 Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser
 450 455 460
 His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala
 465 470 475 480
 Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp
 485 490 495
 Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys
 500 505 510
 Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro
 515 520 525
 Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala
 530 535 540
 Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile
 545 550 555 560
 Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn
 565 570 575
 Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys
 580 585 590
 Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln
 595 600 605
 Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro
 610 615 620
 Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly
 625 630 635 640
 Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp
 645 650 655

Thr	Gly	Leu	Phe	Cys	Thr	Gln	Arg	Cys	Pro	Ala	Ala	Phe	Phe	Gly	Lys	660	665	670	
Asp	Cys	Gly	Arg	Val	Cys	Gln	Cys	Gln	Asn	Gly	Ala	Ser	Cys	Asp	His	675	680	685	
Ile	Ser	Gly	Lys	Cys	Thr	Cys	Arg	Thr	Gly	Phe	Thr	Gly	Gln	His	Cys	690	695	700	
Glu	Gln	Arg	Cys	Ala	Pro	Gly	Thr	Phe	Gly	Tyr	Gly	Cys	Gln	Gln	Leu	705	710	715	720
Cys	Glu	Cys	Met	Asn	Asn	Ser	Thr	Cys	Asp	His	Val	Thr	Gly	Thr	Cys	725	730	735	
Tyr	Cys	Ser	Pro	Gly	Phe	Lys	Gly	Ile	Arg	Cys	Asp	Gln	Ala	Ala	Leu	740	745	750	
Met	Met	Glu	Glu	Leu	Asn	Pro	Tyr	Thr	Lys	Ile	Ser	Pro	Ala	Leu	Gly	755	760	765	
Ala	Glu	Arg	His	Ser	Val	Gly	Ala	Val	Thr	Gly	Ile	Met	Leu	Leu	Leu	770	775	780	
Phe	Phe	Ile	Val	Val	Leu	Leu	Gly	Leu	Phe	Ala	Trp	His	Arg	Arg	Arg	785	790	795	800
Gln	Lys	Glu	Lys	Gly	Arg	Asp	Leu	Ala	Pro	Arg	Val	Ser	Tyr	Thr	Pro	805	810	815	
Ala	Met	Arg	Met	Thr	Ser	Thr	Asp	Tyr	Ser	Leu	Ser	Gly	Ala	Cys	Gly	820	825	830	
Met	Asp	Arg	Arg	Gln	Asn	Thr	Tyr	Ile	Met	Asp	Lys	Gly	Phe	Lys	Asp	835	840	845	
Tyr	Met	Lys	Glu	Ser	Val	Cys	Ser	Ser	Ser	Thr	Cys	Ser	Leu	Asn	Ser	850	855	860	
Ser	Glu	Asn	Pro	Tyr	Ala	Thr	Ile	Lys	Asp	Pro	Pro	Ile	Leu	Thr	Cys	865	870	875	880
Lys	Leu	Pro	Glu	Ser	Ser	Tyr	Val	Glu	Met	Lys	Ser	Pro	Val	His	Met	885	890	895	
Gly	Ser	Pro	Tyr	Thr	Asp	Val	Pro	Ser	Leu	Ser	Thr	Ser	Asn	Lys	Asn	900	905	910	

Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly
915 920 925

His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp Leu Pro Arg Asn Ser
930 935 940

His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala
945 950 955 960

Asn Gly Pro Ser Gln Asp Lys Gln Ser
965

<210> 35

<211> 969

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (848)..(889)

<223> Where Xaa is any amino acid

<400> 35

Met His Thr Pro Ser Ile Arg Ser Ile Thr His Asp Ala Gln Thr Ser
1 5 10 15

Ser Thr Gly Ser Ser Ala Pro Gly Thr Ala Leu Cys Thr Glu Glu Cys
20 25 30

Val His Gly Arg Cys Val Ser Pro Asp Thr Cys His Cys Glu Pro Gly
35 40 45

Trp Gly Gly Pro Asp Cys Ser Ser Gly Cys Asp Ser Asp His Trp Gly
50 55 60

Pro His Cys Ser Asn Arg Cys Gln Cys Gln Asn Gly Ala Leu Cys Asn
65 70 75 80

Pro Ile Thr Gly Ala Cys Val Cys Ala Ala Gly Phe Arg Gly Trp Arg
85 90 95

Cys Glu Glu Leu Cys Ala Pro Gly Thr His Gly Lys Gly Cys Gln Leu
100 105 110

Pro Cys Gln Cys Arg His Gly Ala Ser Cys Asp Pro Arg Ala Gly Glu
115 120 125

Cys	Leu	Cys	Ala	Pro	Gly	Tyr	Thr	Gly	Val	Tyr	Cys	Glu	Glu	Leu	Cys	
130						135					140					
Pro	Pro	Gly	Ser	His	Gly	Ala	His	Cys	Glu	Leu	Arg	Cys	Pro	Cys	Gln	
145					150					155					160	
Asn	Gly	Gly	Thr	Cys	His	His	Ile	Thr	Gly	Glu	Cys	Ala	Cys	Pro	Pro	
				165					170					175		
Gly	Trp	Thr	Gly	Ala	Val	Cys	Ala	Gln	Pro	Cys	Pro	Pro	Gly	Thr	Phe	
			180					185						190		
Gly	Gln	Asn	Cys	Ser	Gln	Asp	Cys	Pro	Cys	His	His	Gly	Gly	Gln	Cys	
	195						200					205				
Asp	His	Val	Thr	Gly	Gln	Cys	His	Cys	Thr	Ala	Gly	Tyr	Met	Gly	Asp	
210						215					220					
Arg	Cys	Gln	Glu	Glu	Cys	Pro	Phe	Gly	Ser	Phe	Gly	Phe	Gln	Cys	Ser	
225					230					235					240	
Gln	His	Cys	Asp	Cys	His	Asn	Gly	Gly	Gln	Cys	Ser	Pro	Thr	Thr	Gly	
				245					250					255		
Ala	Cys	Glu	Cys	Glu	Pro	Gly	Tyr	Lys	Gly	Pro	Arg	Cys	Gln	Glu	Arg	
		260						265					270			
Leu	Cys	Pro	Glu	Gly	Leu	His	Gly	Pro	Gly	Cys	Thr	Leu	Pro	Cys	Pro	
	275						280					285				
Cys	Asp	Ala	Asp	Asn	Thr	Ile	Ser	Cys	His	Pro	Val	Thr	Gly	Ala	Cys	
290						295					300					
Thr	Cys	Gln	Pro	Gly	Trp	Ser	Gly	His	His	Cys	Asn	Glu	Ser	Cys	Pro	
305					310					315					320	
Val	Gly	Tyr	Tyr	Gly	Asp	Gly	Cys	Gln	Leu	Pro	Cys	Thr	Cys	Gln	Asn	
				325					330					335		
Gly	Ala	Asp	Cys	His	Ser	Ile	Thr	Gly	Gly	Cys	Thr	Cys	Ala	Pro	Gly	
			340					345					350			
Phe	Met	Gly	Glu	Val	Cys	Ala	Val	Ser	Cys	Ala	Ala	Gly	Thr	Tyr	Gly	
	355						360					365				
Pro	Asn	Cys	Ser	Ser	Ile	Cys	Ser	Cys	Asn	Asn	Gly	Gly	Thr	Cys	Ser	
370						375					380					

Pro Val Asp Gly Ser Cys Thr Cys Lys Glu Gly Trp Gln Gly Leu Asp			
385	390	395	400
Cys Thr Leu Pro Cys Pro Ser Gly Thr Trp Gly Leu Asn Cys Asn Glu			
	405	410	415
Ser Cys Thr Cys Ala Asn Gly Ala Ala Cys Ser Pro Ile Asp Gly Ser			
	420	425	430
Cys Ser Cys Thr Pro Gly Trp Leu Gly Asp Thr Cys Glu Leu Pro Cys			
	435	440	445
Pro Asp Gly Thr Phe Gly Leu Asn Cys Ser Glu His Cys Asp Cys Ser			
	450	455	460
His Ala Asp Gly Cys Asp Pro Val Thr Gly His Cys Cys Cys Leu Ala			
465	470	475	480
Gly Trp Thr Gly Ile Arg Cys Asp Ser Thr Cys Pro Pro Gly Arg Trp			
	485	490	495
Gly Pro Asn Cys Ser Val Ser Cys Ser Cys Glu Asn Gly Gly Ser Cys			
	500	505	510
Ser Pro Glu Asp Gly Ser Cys Glu Cys Ala Pro Gly Phe Arg Gly Pro			
	515	520	525
Leu Cys Gln Arg Ile Cys Pro Pro Gly Phe Tyr Gly His Gly Cys Ala			
	530	535	540
Gln Pro Cys Pro Leu Cys Val His Ser Ser Arg Pro Cys His His Ile			
545	550	555	560
Ser Gly Ile Cys Glu Cys Leu Pro Gly Phe Ser Gly Ala Leu Cys Asn			
	565	570	575
Gln Val Cys Ala Gly Gly Tyr Phe Gly Gln Asp Cys Ala Gln Leu Cys			
	580	585	590
Ser Cys Ala Asn Asn Gly Thr Cys Ser Pro Ile Asp Gly Ser Cys Gln			
	595	600	605
Cys Phe Pro Gly Trp Ile Gly Lys Asp Cys Ser Gln Ala Cys Pro Pro			
	610	615	620
Gly Phe Trp Gly Pro Ala Cys Phe His Ala Cys Ser Cys His Asn Gly			
625	630	635	640

Ala Ser Cys Ser Ala Glu Asp Gly Ala Cys His Cys Thr Pro Gly Trp
 645 650 655
 Thr Gly Leu Phe Cys Thr Gln Arg Cys Pro Ala Ala Phe Phe Gly Lys
 660 665 670
 Asp Cys Gly Arg Val Cys Gln Cys Gln Asn Gly Ala Ser Cys Asp His
 675 680 685
 Ile Ser Gly Lys Cys Thr Cys Arg Thr Gly Phe Thr Gly Gln His Cys
 690 695 700
 Glu Gln Arg Cys Ala Pro Gly Thr Phe Gly Tyr Gly Cys Gln Gln Leu
 705 710 715 720
 Cys Glu Cys Met Asn Asn Ser Thr Cys Asp His Val Thr Gly Thr Cys
 725 730 735
 Tyr Cys Ser Pro Gly Phe Lys Gly Ile Arg Cys Asp Gln Ala Ala Leu
 740 745 750
 Met Met Glu Glu Leu Asn Pro Tyr Thr Lys Ile Ser Pro Ala Leu Gly
 755 760 765
 Ala Glu Arg His Ser Val Gly Ala Val Thr Gly Ile Met Leu Leu Leu
 770 775 780
 Phe Leu Ile Val Val Leu Leu Gly Leu Phe Ala Trp His Arg Arg Arg
 785 790 795 800
 Gln Lys Glu Lys Gly Arg Asp Leu Ala Pro Arg Val Ser Tyr Thr Pro
 805 810 815
 Ala Met Arg Met Thr Ser Thr Asp Tyr Ser Leu Ser Gly Ala Cys Gly
 820 825 830
 Met Asp Arg Arg Gln Asn Thr Tyr Ile Met Asp Lys Gly Phe Lys Xaa
 835 840 845
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 850 855 860
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 865 870 875 880
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Met Lys Ser Pro Val His Met
 885 890 895

Gly Ser Pro Tyr Thr Asp Val Pro Ser Leu Ser Thr Ser Asn Lys Asn
 900 905 910

Ile Tyr Glu Val Glu Pro Thr Val Ser Val Val Gln Glu Gly Cys Gly
 915 920 925

His Asn Ser Ser Tyr Ile Gln Asn Ala Tyr Asp Leu Pro Arg Asn Ser
 930 935 940

His Ile Pro Gly His Tyr Asp Leu Leu Pro Val Arg Gln Ser Pro Ala
 945 950 955 960

Asn Gly Pro Ser Gln Asp Lys Gln Ser
 965

<210> 36

<211> 1234

<212> PRT

<213> Homo sapiens

<400> 36

Met Leu Ala Ser Pro Ala Thr Glu Thr Thr Val Leu Met Ser Gln Thr
 1 5 10 15

Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu Gly Thr Ala Gly
 20 25 30

Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg Arg Phe Ser Gly
 35 40 45

Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser Arg Arg Ser Ser
 50 55 60

Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro Ala Ser Pro Ala
 65 70 75 80

Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro Gly Pro Ala Arg
 85 90 95

Ser Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly Thr Trp Thr Glu Gly
 100 105 110

Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg Pro Glu Leu Pro Asp
 115 120 125

Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu Arg Val Pro Glu Ala

130		135		140
Val Ala Leu Glu Arg Arg Arg Glu Gln Glu Glu Lys Glu Asp Met Glu				
145		150		155
Thr Gln Ala Val Ala Thr Ser Pro Asp Gly Arg Tyr Leu Lys Phe Asp				
	165		170	175
Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Arg Gly Leu Asp Thr				
	180		185	190
Asp Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Thr Arg Lys Leu				
	195		200	205
Ser Arg Ala Glu Arg Gln Arg Phe Ser Glu Glu Val Glu Met Leu Lys				
	210		215	220
Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Lys Ser				
	225		230	235
Val Leu Arg Gly Gln Val Cys Ile Val Leu Val Thr Glu Leu Met Thr				
	245		250	255
Ser Gly Thr Leu Lys Thr Leu Arg Arg Phe Arg Glu Met Lys Pro Arg				
	260		265	270
Val Leu Gln Arg Trp Ser Arg Gln Ile Leu Arg Gly Leu His Phe Leu				
	275		280	285
His Ser Arg Val Pro Pro Ile Leu His Arg Asp Leu Lys Cys Asp Asn				
	290		295	300
Val Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp Leu Gly				
	305		310	315
Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile Gly Thr				
	325		330	335
Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp Glu Ala				
	340		345	350
Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala Thr Ser				
	355		360	365
Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Lys Val Thr				
	370		375	380
Ser Gly Arg Lys Pro Asn Ser Phe His Lys Val Lys Ile Pro Glu Val				

385		390		395		400
Lys Glu Ile Ile Glu Gly Cys Ile Arg Thr Asp Lys Asn Glu Arg Phe						
	405			410		415
Thr Ile Gln Asp Leu Leu Ala His Ala Phe Phe Arg Glu Glu Arg Gly						
	420			425		430
Val His Val Glu Leu Ala Glu Glu Asp Asp Gly Glu Lys Pro Gly Leu						
	435			440		445
Lys Leu Trp Leu Arg Met Glu Asp Ala Arg Arg Gly Gly Arg Pro Arg						
	450			455		460
Asp Asn Gln Ala Ile Glu Phe Leu Phe Gln Leu Gly Arg Ala Ala Glu						
	465			470		475
Glu Val Ala Gln Glu Met Val Ala Leu Gly Leu Val Cys Glu Ala Asp						
	485			490		495
Tyr Gln Pro Val Ala Arg Ala Val Arg Glu Arg Val Ala Ala Ile Gln						
	500			505		510
Arg Lys Arg Lys Leu Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro						
	515			520		525
Glu Pro Gly Pro Pro Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro						
	530			535		540
Ser Val Phe Pro Pro Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln						
	545			550		555
Pro Phe Leu Phe Arg His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys						
	565			570		575
Glu Thr Asp Gly Tyr Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp						
	580			585		590
Pro Ala Leu Gln Pro Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser						
	595			600		605
His Leu Cys Leu Pro Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly						
	610			615		620
Pro Gly Ser Asp Phe Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala						
	625			630		635
Ser Gly Leu Ser Asp Val Gly Glu Gly Met Gly Gln Met Arg Arg Pro						

645	650	655
Pro Gly Arg Asn Leu Arg Arg Arg	Pro Arg Ser Arg Leu Arg Val Thr	
660	665	670
Ser Val Ser Asp Gln Asn Asp Arg Val Val Glu Cys Gln Leu Gln Thr		
675	680	685
His Asn Ser Lys Met Val Thr Phe Arg Phe Asp Leu Asp Gly Asp Ser		
690	695	700
Pro Glu Glu Ile Ala Ala Ala Met Val Tyr Asn Glu Phe Ile Leu Pro		
705	710	715
Ser Glu Arg Asp Gly Phe Leu Arg Arg Ile Arg Glu Ile Ile Gln Arg		
725	730	735
Val Glu Thr Leu Leu Lys Arg Asp Thr Gly Pro Met Glu Ala Ala Glu		
740	745	750
Asp Thr Leu Ser Pro Gln Glu Glu Pro Ala Pro Leu Pro Ala Leu Pro		
755	760	765
Val Pro Leu Pro Asp Pro Ser Asn Glu Glu Leu Gln Ser Ser Thr Ser		
770	775	780
Leu Glu His Arg Ser Trp Thr Ala Phe Ser Thr Ser Ser Ser Ser Pro		
785	790	795
Gly Thr Pro Leu Ser Pro Gly Asn Pro Phe Ser Pro Gly Thr Pro Ile		
805	810	815
Ser Pro Gly Pro Ile Phe Pro Ile Thr Ser Pro Pro Cys His Pro Ser		
820	825	830
Pro Ser Pro Phe Ser Pro Ile Ser Ser Gln Val Ser Ser Asn Pro Ser		
835	840	845
Pro His Pro Thr Ser Ser Pro Leu Pro Phe Ser Ser Ser Thr Pro Glu		
850	855	860
Phe Pro Val Pro Leu Ser Gln Cys Pro Trp Ser Ser Leu Pro Thr Thr		
865	870	875
Ser Pro Pro Thr Phe Ser Pro Thr Cys Ser Gln Val Thr Leu Ser Ser		
885	890	895
Pro Phe Phe Pro Pro Cys Pro Ser Thr Ser Ser Phe Pro Ser Thr Thr		

900					905					910						
Ala	Ala	Pro	Leu	Leu	Ser	Leu	Ala	Ser	Ala	Phe	Ser	Leu	Ala	Val	Met	
915					920					925						
Thr	Val	Ala	Gln	Ser	Leu	Ser	Pro	Ser	Pro	Gly	Leu	Leu	Ser	Gln	Ser	
930					935					940						
Pro	Pro	Ala	Pro	Pro	Ser	Pro	Leu	Pro	Ser	Leu	Pro	Leu	Pro	Pro	Pro	
945					950					955					960	
Val	Ala	Pro	Gly	Gly	Gln	Glu	Ser	Pro	Ser	Pro	His	Thr	Ala	Glu	Val	
965					970					975						
Glu	Ser	Glu	Ala	Ser	Pro	Pro	Pro	Ala	Arg	Pro	Leu	Pro	Gly	Glu	Ala	
980					985					990						
Arg	Leu	Ala	Pro	Ile	Ser	Glu	Glu	Gly	Lys	Pro	Gln	Leu	Val	Gly	Arg	
995					1000					1005						
Phe	Gln	Val	Thr	Ser	Ser	Lys	Glu	Pro	Ala	Glu	Pro	Leu	Pro	Leu	Gln	
1010					1015					1020						
Pro	Thr	Ser	Pro	Thr	Leu	Ser	Gly	Ser	Pro	Lys	Pro	Ser	Thr	Pro	Gln	
1025					1030					1035					1040	
Leu	Thr	Ser	Glu	Ser	Ser	Asp	Thr	Glu	Asp	Ser	Ala	Gly	Gly	Gly	Pro	
1045					1050					1055						
Glu	Thr	Arg	Glu	Ala	Leu	Ala	Glu	Ser	Asp	Arg	Ala	Ala	Glu	Gly	Leu	
1060					1065					1070						
Gly	Ala	Gly	Val	Glu	Glu	Glu	Gly	Asp	Asp	Gly	Lys	Glu	Pro	Gln	Val	
1075					1080					1085						
Gly	Gly	Ser	Pro	Gln	Pro	Leu	Ser	His	Pro	Ser	Pro	Val	Trp	Met	Asn	
1090					1095					1100						
Tyr	Ser	Tyr	Ser	Ser	Leu	Cys	Leu	Ser	Ser	Glu	Glu	Ser	Glu	Ser	Ser	
1105					1110					1115					1120	
Gly	Glu	Glu	Glu	Phe	Trp	Ala	Glu	Leu	Gln	Ser	Leu	Arg	Gln	Lys	His	
1125					1130					1135						
Leu	Ser	Glu	Val	Glu	Thr	Leu	Gln	Thr	Leu	Gln	Lys	Lys	Glu	Ile	Glu	
1140					1145					1150						
Asp	Leu	Tyr	Ser	Arg	Leu	Gly	Lys	Gln	Pro	Pro	Pro	Gly	Ile	Val	Ala	

1155 1160 1165
 Pro Ala Ala Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser
 1170 1175 1180
 Phe Pro Thr Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly
 1185 1190 1195 1200
 Pro Gly Ile Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser
 1205 1210 1215
 Gln Glu Gln Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly
 1220 1225 1230
 Arg Met

<210> 37
 <211> 1231
 <212> PRT
 <213> Homo sapiens

<400> 37
 Met Ser Gln Thr Glu Ala Asp Leu Ala Leu Arg Pro Pro Pro Pro Leu
 1 5 10 15
 Gly Thr Ala Gly Gln Pro Arg Leu Gly Pro Pro Pro Arg Arg Ala Arg
 20 25 30
 Arg Phe Ser Gly Lys Ala Glu Pro Arg Pro Arg Ser Ser Arg Leu Ser
 35 40 45
 Arg Arg Ser Ser Val Asp Leu Gly Leu Leu Ser Ser Trp Ser Leu Pro
 50 55 60
 Ala Ser Pro Ala Pro Asp Pro Pro Asp Pro Pro Asp Ser Ala Gly Pro
 65 70 75 80
 Gly Pro Ala Arg Ser Pro Pro Pro Ser Ser Lys Glu Pro Pro Glu Gly
 85 90 95
 Thr Trp Thr Glu Gly Ala Pro Val Lys Ala Ala Glu Asp Ser Ala Arg
 100 105 110
 Pro Glu Leu Pro Asp Ser Ala Val Gly Pro Gly Ser Arg Glu Pro Leu
 115 120 125

Arg Val Pro Glu Ala Val Ala Leu Glu Arg Arg Arg Glu Gln Glu Glu
 130 135 140

Lys Glu Asp Met Glu Thr Gln Ala Val Ala Thr Ser Pro Asp Gly Arg
 145 150 155 160

Tyr Leu Lys Phe Asp Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val
 165 170 175

Tyr Arg Gly Leu Asp Thr Asp Thr Thr Val Glu Val Ala Trp Cys Glu
 180 185 190

Leu Gln Thr Arg Lys Leu Ser Arg Ala Glu Arg Gln Arg Phe Ser Glu
 195 200 205

Glu Val Glu Met Leu Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe
 210 215 220

Tyr Asp Ser Trp Lys Ser Val Leu Arg Gly Gln Val Cys Ile Val Leu
 225 230 235 240

Val Thr Glu Leu Met Thr Ser Gly Thr Leu Lys Thr Tyr Leu Arg Arg
 245 250 255

Phe Arg Glu Met Lys Pro Arg Val Leu Gln Arg Trp Ser Arg Gln Ile
 260 265 270

Leu Arg Gly Leu His Phe Leu His Ser Arg Val Pro Pro Ile Leu His
 275 280 285

Arg Asp Leu Lys Cys Asp Asn Val Phe Ile Thr Gly Pro Thr Gly Ser
 290 295 300

Val Lys Ile Gly Asp Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe
 305 310 315 320

Ala Lys Ser Val Ile Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr
 325 330 335

Glu Glu Lys Tyr Asp Glu Ala Val Asp Val Tyr Ala Phe Gly Met Cys
 340 345 350

Met Leu Glu Met Ala Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn
 355 360 365

Ala Ala Gln Ile Tyr Arg Lys Val Thr Ser Gly Arg Lys Pro Asn Ser
 370 375 380

Phe His Lys Val Lys Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys
385 390 395 400
Ile Arg Thr Asp Lys Asn Glu Arg Phe Thr Ile Gln Asp Leu Leu Ala
405 410 415
His Ala Phe Phe Arg Glu Glu Arg Gly Val His Val Glu Leu Ala Glu
420 425 430
Glu Asp Asp Gly Glu Lys Pro Gly Leu Lys Leu Trp Leu Arg Met Glu
435 440 445
Asp Ala Arg Arg Gly Gly Arg Pro Arg Asp Asn Gln Ala Ile Glu Phe
450 455 460
Leu Phe Gln Leu Gly Arg Asp Ala Ala Glu Glu Val Ala Gln Glu Met
465 470 475 480
Val Ala Leu Gly Leu Val Cys Glu Ala Asp Tyr Gln Pro Val Ala Arg
485 490 495
Ala Val Arg Glu Arg Val Ala Ala Ile Gln Arg Lys Arg Glu Lys Leu
500 505 510
Arg Lys Ala Arg Glu Leu Glu Ala Leu Pro Pro Glu Pro Gly Pro Pro
515 520 525
Pro Ala Thr Val Pro Met Ala Pro Gly Pro Pro Ser Val Phe Pro Pro
530 535 540
Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Pro Phe Leu Phe Arg
545 550 555 560
His Ala Ser Tyr Ser Ser Thr Thr Ser Asp Cys Glu Thr Asp Gly Tyr
565 570 575
Leu Ser Ser Ser Gly Phe Leu Asp Ala Ser Asp Pro Ala Leu Gln Pro
580 585 590
Pro Gly Gly Val Pro Ser Ser Leu Ala Glu Ser His Leu Cys Leu Pro
595 600 605
Ser Ala Phe Ala Leu Ser Ile Pro Arg Ser Gly Pro Gly Ser Asp Phe
610 615 620
Ser Pro Gly Asp Ser Tyr Ala Ser Asp Ala Ala Ser Gly Leu Ser Asp
625 630 635 640

Val	Gly	Glu	Gly	Met	Gly	Gln	Met	Arg	Arg	Pro	Pro	Gly	Arg	Asn	Leu	
				645					650					655		
Arg	Arg	Arg	Pro	Arg	Ser	Arg	Leu	Arg	Val	Thr	Ser	Val	Ser	Asp	Gln	
			660					665					670			
Asn	Asp	Arg	Val	Val	Glu	Cys	Gln	Leu	Gln	Thr	His	Asn	Ser	Lys	Met	
		675					680					685				
Val	Thr	Phe	Arg	Phe	Asp	Leu	Asp	Gly	Asp	Ser	Pro	Glu	Glu	Ile	Ala	
	690					695					700					
Ala	Ala	Met	Val	Tyr	Asn	Glu	Phe	Ile	Leu	Pro	Ser	Glu	Arg	Asp	Gly	
705					710					715					720	
Phe	Leu	Arg	Arg	Ile	Arg	Glu	Ile	Ile	Gln	Arg	Val	Glu	Thr	Leu	Leu	
				725					730					735		
Lys	Arg	Asp	Thr	Gly	Pro	Met	Glu	Ala	Ala	Glu	Asp	Thr	Leu	Ser	Pro	
			740					745					750			
Gln	Glu	Glu	Pro	Ala	Pro	Leu	Pro	Ala	Leu	Pro	Val	Pro	Leu	Pro	Asp	
		755					760					765				
Pro	Ser	Asn	Glu	Glu	Leu	Gln	Ser	Ser	Thr	Ser	Leu	Glu	His	Arg	Ser	
	770					775					780					
Trp	Thr	Ala	Phe	Ser	Thr	Ser	Ser	Ser	Ser	Pro	Gly	Thr	Pro	Leu	Ser	
785					790					795				800		
Pro	Gly	Asn	Pro	Phe	Ser	Pro	Gly	Thr	Pro	Ile	Ser	Pro	Gly	Pro	Ile	
				805					810					815		
Phe	Pro	Ile	Thr	Ser	Pro	Pro	Cys	His	Pro	Ser	Pro	Ser	Pro	Phe	Ser	
			820					825					830			
Pro	Ile	Ser	Ser	Gln	Val	Ser	Ser	Asn	Pro	Ser	Pro	His	Pro	Thr	Ser	
		835					840					845				
Ser	Pro	Leu	Pro	Phe	Ser	Ser	Ser	Thr	Pro	Glu	Phe	Pro	Val	Pro	Leu	
	850					855					860					
Ser	Gln	Cys	Pro	Trp	Ser	Ser	Leu	Pro	Thr	Thr	Ser	Pro	Pro	Thr	Phe	
865					870					875					880	
Ser	Pro	Thr	Cys	Ser	Gln	Val	Thr	Leu	Ser	Ser	Pro	Phe	Phe	Pro	Pro	
				885				890						895		

Cys Pro Ser Thr Ser Ser Phe Pro Ser Thr Thr Ala Ala Pro Leu Leu
 900 905 910

Ser Leu Ala Ser Ala Phe Ser Leu Ala Val Met Thr Val Ala Gln Ser
 915 920 925

Leu Leu Ser Pro Ser Pro Gly Leu Leu Ser Gln Ser Pro Pro Ala Pro
 930 935 940

Pro Ser Pro Leu Pro Ser Leu Pro Leu Pro Pro Pro Val Ala Pro Gly
 945 950 955 960

Gly Gln Glu Ser Pro Ser Pro His Thr Ala Glu Val Glu Ser Glu Ala
 965 970 975

Ser Pro Pro Pro Ala Arg Pro Leu Pro Gly Glu Ala Arg Leu Ala Pro
 980 985 990

Ile Ser Glu Glu Gly Lys Pro Gln Leu Val Gly Arg Phe Gln Val Thr
 995 1000 1005

Ser Ser Lys Glu Pro Ala Glu Pro Leu Pro Leu Gln Pro Thr Ser Pro
 1010 1015 1020

Thr Leu Ser Gly Ser Pro Lys Pro Ser Thr Pro Gln Leu Thr Ser Glu
 1025 1030 1035 1040

Ser Ser Asp Thr Glu Asp Ser Ala Gly Gly Gly Pro Glu Thr Arg Glu
 1045 1050 1055

Ala Leu Ala Glu Ser Asp Arg Ala Ala Glu Gly Leu Gly Ala Gly Val
 1060 1065 1070

Glu Glu Glu Gly Asp Asp Gly Lys Glu Pro Gln Val Gly Gly Ser Pro
 1075 1080 1085

Gln Pro Leu Ser His Pro Ser Pro Val Trp Met Asn Tyr Ser Tyr Ser
 1090 1095 1100

Ser Leu Cys Leu Ser Ser Glu Glu Ser Glu Ser Ser Gly Glu Asp Glu
 1105 1110 1115 1120

Glu Phe Trp Ala Glu Leu Gln Ser Leu Arg Gln Lys His Leu Ser Glu
 1125 1130 1135

Val Glu Thr Leu Gln Thr Leu Gln Lys Lys Glu Ile Glu Asp Leu Tyr
 1140 1145 1150

Ser Arg Leu Gly Lys Gln Pro Pro Pro Gly Ile Val Ala Pro Ala Ala
1155 1160 1165

Met Leu Ser Ser Arg Gln Arg Arg Leu Ser Lys Gly Ser Phe Pro Thr
1170 1175 1180

Ser Arg Arg Asn Ser Leu Gln Arg Ser Glu Pro Pro Gly Pro Gly Ile
1185 1190 1195 1200

Met Arg Arg Asn Ser Leu Ser Gly Ser Ser Thr Gly Ser Gln Glu Gln
1205 1210 1215

Arg Ala Ser Lys Gly Val Thr Phe Ala Gly Asp Val Gly Arg Met
1220 1225 1230

<210> 38

<211> 670

<212> PRT

<213> Homo sapiens

<400> 38

Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu
1 5 10 15

Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp
20 25 30

Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr
35 40 45

Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp
50 55 60

Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe
65 70 75 80

Arg Arg Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro
85 90 95

Gly Leu Pro Leu Ser Leu Pro Gln Pro Ser Ile Pro Ala Ala Val Pro
100 105 110

Gln Ser Ala Pro Pro Glu Pro His Arg Glu Glu Thr Val Thr Ala Thr
115 120 125

Ala Thr Ser Gln Val Ala Gln Gln Pro Pro Ala Ala Ala Ala Pro Gly
130 135 140

Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr	
145					150					155						160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu	
				165					170					175		
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu	
				180					185					190		
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu	
				195				200					205			
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp	
						210					220					
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp	
225					230					235					240	
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys	
				245					250						255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu	
				260				265						270		
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu	
				275				280					285			
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met	
				290			295					300				
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys	
305					310					315					320	
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln	
				325					330						335	
Phe	Leu	His	Thr	Arg	Thr	Pro	Pro	Ile	Ile	His	Arg	Asp	Leu	Lys	Cys	
				340				345					350			
Asp	Asn	Ile	Phe	Ile	Thr	Gly	Pro	Thr	Gly	Ser	Val	Lys	Ile	Gly	Asp	
				355			360					365				
Leu	Gly	Leu	Ala	Thr	Leu	Lys	Arg	Ala	Ser	Phe	Ala	Lys	Ser	Val	Ile	
				370			375				380					
Gly	Thr	Pro	Glu	Phe	Met	Ala	Pro	Glu	Met	Tyr	Glu	Glu	Lys	Tyr	Asp	
385					390					395					400	

Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala
 405 410 415
 Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr
 420 425 430
 Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala
 435 440 445
 Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys
 450 455 460
 Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln
 465 470 475 480
 Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu
 485 490 495
 Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu
 500 505 510
 Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu
 515 520 525
 Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly
 530 535 540
 Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp
 545 550 555 560
 Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg
 565 570 575
 Glu Glu Gln Glu Lys Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln
 580 585 590
 Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser
 595 600 605
 Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser
 610 615 620
 Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln Leu
 625 630 635 640
 Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val Asp
 645 650 655

Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Gly Gly
660 665 670

<210> 39
<211> 2126
<212> PRT
<213> Rattus norvegicus

<400> 39
Met Ser Asp Gly Thr Ala Glu Lys Gln Ser Gly Thr Pro Gly Phe Leu
1 5 10 15
Ser Pro Pro Ala Pro Val Pro Lys Asn Gly Ser Ser Ser Asp Ser Ser
20 25 30
Val Gly Glu Lys Leu Gly Ala Ala Val Ala Asp Ser Gly Ile Gly Arg
35 40 45
Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp Ser Arg
50 55 60
Gly Ala Ala Ala Thr Thr Thr Pro Thr Glu His Arg Phe Phe Arg Arg
65 70 75 80
Ser Val Ile Cys Asp Ser Asn Ala Thr Ala Leu Glu Leu Pro Gly Leu
85 90 95
Pro Leu Ser Ile Pro Gln Pro Ser Val Pro Ala Val Val Pro Gln Ser
100 105 110
Ala Pro Pro Glu Pro His Arg Glu Glu Thr Leu Thr Ala Thr Val Ala
115 120 125
Ser Gln Val Ser Gln Gln Pro Ser Ala Ala Ala Ser Pro Gly Glu Gln
130 135 140
Ala Val Val Gly Ser Ala Thr Ala Thr Val Pro Ser Ser Thr Ser Lys
145 150 155 160
Asp Arg Pro Val Ser Gln Pro Ser Leu Val Gly Ser Lys Glu Glu Pro
165 170 175
Pro Pro Ser Arg Ser Gly Ser Gly Ser Gly Gly Ala Ser Ala Lys Glu
180 185 190
Pro Gln Glu Glu Arg Asn Gln Gln Gln Asp Asp Ile Glu Glu Leu Glu

195	200	205
Thr Lys Ala Val Gly Met Ser Asn Asp Gly Arg Phe Leu Lys Phe Asp		
210	215	220
Ile Glu Ile Gly Arg Gly Ser Phe Lys Thr Val Tyr Lys Gly Leu Asp		
225	230	235 240
Thr Glu Thr Thr Val Glu Val Ala Trp Cys Glu Leu Gln Asp Arg Lys		
	245	250 255
Leu Thr Lys Ser Glu Arg Gln Arg Phe Lys Glu Glu Ala Glu Met Leu		
	260	265 270
Lys Gly Leu Gln His Pro Asn Ile Val Arg Phe Tyr Asp Ser Trp Glu		
	275	280 285
Ser Thr Val Lys Gly Lys Lys Cys Ile Val Leu Val Thr Glu Leu Met		
	290	295 300
Thr Ser Gly Thr Leu Lys Thr Tyr Leu Lys Arg Phe Lys Val Met Lys		
305	310	315 320
Ile Lys Val Leu Arg Ser Trp Cys Arg Gln Ile Leu Lys Gly Leu Gln		
	325	330 335
Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys		
	340	345 350
Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp		
	355	360 365
Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile		
	370	375 380
Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp		
385	390	395 400
Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala		
	405	410 415
Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr		
	420	425 430
Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala		
	435	440 445
Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys		

450		455		460
Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln				
465		470		475
				480
Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu				
	485		490	495
Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu				
	500		505	510
Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu				
	515		520	525
Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly				
	530		535	540
Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp				
545		550		555
				560
Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg				
	565		570	575
Glu Glu Gln Glu Lys Arg Lys Gln Glu Glu Ser Ser Phe Lys Gln Gln				
	580		585	590
Asn Glu Gln Gln Ala Ser Val Ser Gln Ala Gly Ile Gln Pro Leu Ser				
	595		600	605
Val Ala Ser Thr Gly Ile Pro Thr Ala Pro Thr Thr Ser Ala Ser Val				
	610		615	620
Ser Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln				
625		630		635
				640
Leu Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val				
	645		650	655
Asp Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser				
	660		665	670
Gln Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Ile				
	675		680	685
Gly Thr Ala Pro Gly His Thr Val Ser Ser Ile Gln Ala Gln Ser Gln				
	690		695	700
Pro His Gly Val Tyr Pro Pro Ser Ser Met Ala Gln Gly Gln Asn Gln				

705		710		715		720
Gly Gln Pro Ser Ser Ser Leu Ala Gly Val Leu Ser Ser Gln Pro Val						
	725			730		735
Gln His Pro Gln Gln Gln Gly Ile Gln Pro Thr Val Pro Pro Gln Gln						
	740			745		750
Ala Val Gln Tyr Ser Leu Pro Gln Ala Ala Ser Ser Ser Glu Gly Thr						
	755			760		765
Val Gln Pro Val Ser Gln Pro Gln Val Ser Ala Gly Thr Gln Ser Ser						
	770			775		780
Thr Gln Gly Val Ser Gln Ala Ala Pro Pro Glu Gln Thr Pro Ile Thr						
785		790		795		800
Gln Ser Gln Pro Thr Gln Pro Val Pro Leu Val Ser Ser Val Asp Ser						
	805			810		815
Ala His Ser Asp Val Ala Ser Gly Met Ser Asp Gly Asn Glu Asn Ala						
	820			825		830
Pro Ser Ser Ser Gly Arg His Glu Gly Arg Thr Thr Lys Arg His Tyr						
	835			840		845
Arg Lys Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro						
	850			855		860
Lys Leu Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu						
865		870		875		880
Cys Gln Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp						
	885			890		895
Leu Asp Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn						
	900			905		910
Asp Phe Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Ala Gln Val Arg						
	915			920		925
Glu Ile Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val						
	930			935		940
Glu Pro Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp						
945		950		955		960
Tyr Gly Phe Pro Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro						

965	970	975
Ile Ala Val Ser Ser Met Pro Gln Gln Ile Gly Val Pro Thr Ser Ser		
980	985	990
Leu Thr Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro		
995	1000	1005
Val Pro Glu Ser Arg Leu Arg Glu Ser Lys Ile Phe Thr Ser Glu Ile		
1010	1015	1020
Pro Asp Pro Val Ala Ala Ser Thr Ser Gln Gly Pro Gly Met Asn Leu		
1025	1030	1035
Ser His Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu		
1045	1050	1055
Lys His Gly Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe		
1060	1065	1070
Asn His Pro Gly Pro Thr Phe Ser Pro Phe Leu Thr Ser Ile Ala Gly		
1075	1080	1085
Val Gln Thr Val Ala Ala Ser Thr Pro Ser Val Ser Val Pro Ile Thr		
1090	1095	1100
Ser Ser Pro Leu Asn Asp Ile Ser Thr Ser Val Met Gln Ser Glu Gly		
1105	1110	1115
Ala Leu Pro Thr Asp Lys Gly Ile Gly Gly Val Thr Thr Ser Thr Gly		
1125	1130	1135
Val Val Ala Ser Gly Gly Leu Thr Thr Leu Ser Val Ser Glu Thr Pro		
1140	1145	1150
Thr Leu Ser Ser Ala Val Ser Ser Ser Thr Ala Pro Ala Val Val Thr		
1155	1160	1165
Val Ser Thr Thr Ser Gln Pro Val Gln Ala Phe Thr Ser Gly Ser Ile		
1170	1175	1180
Ala Ser Ser Thr Gly Ser Phe Pro Ser Gly Thr Phe Ser Thr Thr Thr		
1185	1190	1195
Gly Thr Thr Val Ser Ser Val Ala Val Pro Asn Ala Lys Pro Pro Thr		
1205	1210	1215
Val Leu Leu Gln Gln Val Ala Gly Asn Thr Ala Gly Val Ala Ile Val		

1220	1225	1230
Thr Ser Val Ser Thr Thr Thr Pro Phe Pro Ala Met Ala Ser Gln Pro		
1235	1240	1245
Ser Leu Pro Leu Gly Ser Ser Thr Ser Ala Pro Thr Leu Ala Glu Thr		
1250	1255	1260
Val Val Val Ser Ala His Ser Leu Asp Lys Ala Ser His Ser Ser Thr		
1265	1270	1275 1280
Ala Gly Leu Gly Leu Ser Phe Cys Ala Pro Ser Ser Ser Ser Ser Ser		
1285	1290	1295
Gly Thr Ala Val Ser Ser Ser Val Ser Gln Pro Gly Ile Val His Pro		
1300	1305	1310
Leu Val Ile Ser Ser Ala Ile Ala Ser Thr Pro Val Leu Pro Gln Pro		
1315	1320	1325
Ala Val Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Asn Ile Pro		
1330	1335	1340
Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr Leu		
1345	1350	1355 1360
Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His Thr		
1365	1370	1375
His Cys Pro Glu Met Asp Ala Asp Thr Gln Ser Lys Ala Pro Gly Ile		
1380	1385	1390
Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser Glu		
1395	1400	1405
His Ser Ser Ser Gly Thr Gln His Ala Ser Val Ser Leu Glu Thr Pro		
1410	1415	1420
Leu Val Val Glu Thr Val Thr Pro Gly Ile Pro Thr Thr Ala Val Ala		
1425	1430	1435 1440
Pro Ser Lys Leu Met Thr Ser Thr Thr Ser Thr Cys Leu Pro Pro Thr		
1445	1450	1455
Asn Leu Pro Leu Gly Thr Ala Gly Met Pro Val Met Pro Val Gly Thr		
1460	1465	1470
Pro Gly Gln Val Ser Thr Pro Gly Thr His Ala Ser Ala Pro Ala Ser		

1475	1480	1485
Thr Ala Thr Gly Ala Lys Pro Gly Thr Thr Pro Pro Lys Pro Ser Leu		
1490	1495	1500
Thr Lys Thr Val Val Pro Pro Val Gly Thr Glu Leu Ser Ala Gly Thr		
1505	1510	1515
Val Pro Cys Glu Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Ile Gln		
	1525	1530
Thr Gln Gln Pro Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu		
	1540	1545
Ser Pro Glu Thr Ile Pro Val Thr Pro Ala Val Gly Pro Leu Ser Thr		
	1555	1560
Met Ser Ser Thr Ala Val Thr Glu Ala Gly Ser Gln Pro Gln Lys Asp		
	1570	1575
Gly Thr Glu Val His Val Thr Ala Ser Ser Ser Gly Ala Gly Val Val		
1585	1590	1595
Lys Met Gly Arg Phe Gln Val Ser Val Thr Met Asp Asp Ala Gln Lys		
	1605	1610
Glu Arg Lys Asn Arg Ser Glu Asp Thr Lys Ser Val His Phe Glu Ser		
	1620	1625
Ser Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr		
	1635	1640
Leu Val Lys Pro Glu Pro Asn Gly Ile Thr Val Ser Gly Ile Ser Leu		
	1650	1655
Asp Val Pro Asp Ser Thr His Arg Thr Pro Thr Pro Glu Ala Lys Ser		
1665	1670	1675
Glu Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr		
	1685	1690
Ala Asn Lys Val Gly Arg Phe Ser Val Ser Arg Thr Glu Asp Lys Val		
	1700	1705
Thr Glu Leu Lys Lys Glu Gly Pro Val Thr Ser Pro Phe Arg Asp Ser		
	1715	1720
Glu Gln Thr Val Ile Pro Ala Ala Ile Pro Lys Lys Glu Lys Pro Glu		

1730	1735	1740
Leu Ala Glu Pro Ser His	Leu Asn Gly Pro Ser Ser Asp	Leu Glu Ala
1745	1750	1755 1760
Ala Phe Leu Ser Arg Gly Gly Glu Asp Gly Ser Gly Ser Pro His Ser	1765 1770	1775
Pro Pro His Leu Cys Ser Lys Ser Leu Pro Ile Gln Thr Leu Ser Gln	1780 1785	1790
Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu	1795 1800	1805
Ser Asp Ile Glu Asp Glu Asp Leu Arg Leu Glu Leu Arg Arg Leu Arg	1810 1815	1820
Glu Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His	1825 1830	1835 1840
Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val	1845 1850	1855
Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr	1860 1865	1870
Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys	1875 1880	1885
Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Gly Thr Ser Val	1890 1895	1900
Leu Asn Pro Gln Gln Thr Leu His Pro Pro Gly Asn Thr Pro Glu Thr	1905 1910	1915 1920
Gly His Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp	1925 1930	1935
Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Ile Pro Ser	1940 1945	1950
Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Gly	1955 1960	1965
Thr Val Ser Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser	1970 1975	1980
Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn		

1985	1990	1995	2000
Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly			
2005	2010	2015	
His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro			
2020	2025	2030	
Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Met Gly Gly Ser Thr Pro			
2035	2040	2045	
Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met			
2050	2055	2060	
Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Ala Pro Phe Gly Thr Gln			
2065	2070	2075	2080
Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln			
2085	2090	2095	
Pro Val Gly Thr Thr Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln			
2100	2105	2110	
Lys Ser Ile Ser Asn Pro Pro Ser Ser Asn Leu Arg Thr Thr			
2115	2120	2125	
<210> 40			
<211> 2382			
<212> PRT			
<213> Homo sapiens			
<400> 40			
Met Ser Gly Gly Ala Ala Glu Lys Gln Ser Ser Thr Pro Gly Ser Leu			
1	5	10	15
Phe Leu Ser Pro Pro Ala Pro Ala Pro Lys Asn Gly Ser Ser Ser Asp			
20	25	30	
Ser Ser Val Gly Glu Lys Leu Gly Ala Ala Ala Ala Asp Ala Val Thr			
35	40	45	
Gly Arg Thr Glu Glu Tyr Arg Arg Arg Arg His Thr Met Asp Lys Asp			
50	55	60	
Ser Arg Gly Ala Ala Ala Thr Thr Thr Thr Thr Glu His Arg Phe Phe			
65	70	75	80

Arg	Arg	Ser	Val	Ile	Cys	Asp	Ser	Asn	Ala	Thr	Ala	Leu	Glu	Leu	Pro	85	90	95	
Gly	Leu	Pro	Leu	Ser	Leu	Pro	Gln	Pro	Ser	Ile	Pro	Ala	Ala	Val	Pro	100	105	110	
Gln	Ser	Ala	Pro	Pro	Glu	Pro	His	Arg	Glu	Glu	Thr	Val	Thr	Ala	Thr	115	120	125	
Ala	Thr	Ser	Gln	Val	Ala	Gln	Gln	Pro	Pro	Ala	Ala	Ala	Ala	Pro	Gly	130	135	140	
Glu	Gln	Ala	Val	Ala	Gly	Pro	Ala	Pro	Ser	Thr	Val	Pro	Ser	Ser	Thr	145	150	155	160
Ser	Lys	Asp	Arg	Pro	Val	Ser	Gln	Pro	Ser	Leu	Val	Gly	Ser	Lys	Glu	165	170	175	
Glu	Pro	Pro	Pro	Ala	Arg	Ser	Gly	Ser	Gly	Gly	Gly	Ser	Ala	Lys	Glu	180	185	190	
Pro	Gln	Glu	Glu	Arg	Ser	Gln	Gln	Gln	Asp	Asp	Ile	Glu	Glu	Leu	Glu	195	200	205	
Thr	Lys	Ala	Val	Gly	Met	Ser	Asn	Asp	Gly	Arg	Phe	Leu	Lys	Phe	Asp	210	215	220	
Ile	Glu	Ile	Gly	Arg	Gly	Ser	Phe	Lys	Thr	Val	Tyr	Lys	Gly	Leu	Asp	225	230	235	240
Thr	Glu	Thr	Thr	Val	Glu	Val	Ala	Trp	Cys	Glu	Leu	Gln	Asp	Arg	Lys	245	250	255	
Leu	Thr	Lys	Ser	Glu	Arg	Gln	Arg	Phe	Lys	Glu	Glu	Ala	Glu	Met	Leu	260	265	270	
Lys	Gly	Leu	Gln	His	Pro	Asn	Ile	Val	Arg	Phe	Tyr	Asp	Ser	Trp	Glu	275	280	285	
Ser	Thr	Val	Lys	Gly	Lys	Lys	Cys	Ile	Val	Leu	Val	Thr	Glu	Leu	Met	290	295	300	
Thr	Ser	Gly	Thr	Leu	Lys	Thr	Tyr	Leu	Lys	Arg	Phe	Lys	Val	Met	Lys	305	310	315	320
Ile	Lys	Val	Leu	Arg	Ser	Trp	Cys	Arg	Gln	Ile	Leu	Lys	Gly	Leu	Gln	325	330	335	

Phe Leu His Thr Arg Thr Pro Pro Ile Ile His Arg Asp Leu Lys Cys
340 345 350
Asp Asn Ile Phe Ile Thr Gly Pro Thr Gly Ser Val Lys Ile Gly Asp
355 360 365
Leu Gly Leu Ala Thr Leu Lys Arg Ala Ser Phe Ala Lys Ser Val Ile
370 375 380
Gly Thr Pro Glu Phe Met Ala Pro Glu Met Tyr Glu Glu Lys Tyr Asp
385 390 395 400
Glu Ser Val Asp Val Tyr Ala Phe Gly Met Cys Met Leu Glu Met Ala
405 410 415
Thr Ser Glu Tyr Pro Tyr Ser Glu Cys Gln Asn Ala Ala Gln Ile Tyr
420 425 430
Arg Arg Val Thr Ser Gly Val Lys Pro Ala Ser Phe Asp Lys Val Ala
435 440 445
Ile Pro Glu Val Lys Glu Ile Ile Glu Gly Cys Ile Arg Gln Asn Lys
450 455 460
Asp Glu Arg Tyr Ser Ile Lys Asp Leu Leu Asn His Ala Phe Phe Gln
465 470 475 480
Glu Glu Thr Gly Val Arg Val Glu Leu Ala Glu Glu Asp Asp Gly Glu
485 490 495
Lys Ile Ala Ile Lys Leu Trp Leu Arg Ile Glu Asp Ile Lys Lys Leu
500 505 510
Lys Gly Lys Tyr Lys Asp Asn Glu Ala Ile Glu Phe Ser Phe Asp Leu
515 520 525
Glu Arg Asp Val Pro Glu Asp Val Ala Gln Glu Met Val Glu Ser Gly
530 535 540
Tyr Val Cys Glu Gly Asp His Lys Thr Met Ala Lys Ala Ile Lys Asp
545 550 555 560
Arg Val Ser Leu Ile Lys Arg Lys Arg Glu Gln Arg Gln Leu Val Arg
565 570 575
Glu Glu Gln Glu Lys Lys Lys Gln Glu Glu Ser Ser Leu Lys Gln Gln
580 585 590

Val Glu Gln Ser Ser Ala Ser Gln Thr Gly Ile Lys Gln Leu Pro Ser
595 600 605

Ala Ser Thr Gly Ile Pro Thr Ala Ser Thr Thr Ser Ala Ser Val Ser
610 615 620

Thr Gln Val Glu Pro Glu Glu Pro Glu Ala Asp Gln His Gln Gln Leu
625 630 635 640

Gln Tyr Gln Gln Pro Ser Ile Ser Val Leu Ser Asp Gly Thr Val Asp
645 650 655

Ser Gly Gln Gly Ser Ser Val Phe Thr Glu Ser Arg Val Ser Ser Gln
660 665 670

Gln Thr Val Ser Tyr Gly Ser Gln His Glu Gln Ala His Ser Thr Gly
675 680 685

Thr Val Pro Gly His Ile Pro Ser Thr Val Gln Ala Gln Ser Gln Pro
690 695 700

His Gly Val Tyr Pro Pro Ser Ser Val Ala Gln Gly Gln Ser Gln Gly
705 710 715 720

Gln Pro Ser Ser Ser Ser Leu Thr Gly Val Ser Ser Ser Gln Pro Ile
725 730 735

Gln His Pro Gln Gln Gln Gly Ile Gln Gln Thr Ala Pro Pro Gln
740 745 750

Gln Thr Val Gln Tyr Ser Leu Ser Gln Thr Ser Thr Ser Ser Glu Ala
755 760 765

Thr Thr Ala Gln Pro Val Ser Gln Pro Gln Ala Pro Gln Val Leu Pro
770 775 780

Gln Val Ser Ala Gly Lys Gln Leu Pro Val Ser Gln Pro Val Pro Thr
785 790 795 800

Ile Gln Gly Glu Pro Gln Ile Pro Val Ala Thr Gln Pro Ser Val Val
805 810 815

Pro Val His Ser Gly Ala His Phe Leu Pro Val Gly Gln Pro Leu Pro
820 825 830

Thr Pro Leu Leu Pro Gln Tyr Pro Val Ser Gln Ile Pro Ile Ser Thr
835 840 845

Pro	His	Val	Ser	Thr	Ala	Gln	Thr	Gly	Phe	Ser	Ser	Leu	Pro	Ile	Thr	850	855	860	
Met	Ala	Ala	Gly	Ile	Thr	Gln	Pro	Leu	Leu	Thr	Leu	Ala	Ser	Ser	Ala	865	870	875	880
Thr	Thr	Ala	Ala	Ile	Pro	Gly	Val	Ser	Thr	Val	Val	Pro	Ser	Gln	Leu	885	890	895	
Pro	Thr	Leu	Leu	Gln	Pro	Val	Thr	Gln	Leu	Pro	Ser	Gln	Val	His	Pro	900	905	910	
Gln	Leu	Leu	Gln	Pro	Ala	Val	Gln	Ser	Met	Gly	Ile	Pro	Ala	Asn	Leu	915	920	925	
Gly	Gln	Ala	Ala	Glu	Val	Pro	Leu	Ser	Ser	Gly	Asp	Val	Leu	Tyr	Gln	930	935	940	
Gly	Phe	Pro	Pro	Arg	Leu	Pro	Pro	Gln	Tyr	Pro	Gly	Asp	Ser	Asn	Ile	945	950	955	960
Ala	Pro	Ser	Ser	Asn	Val	Ala	Ser	Val	Cys	Ile	His	Ser	Thr	Val	Leu	965	970	975	
Ser	Pro	Pro	Met	Pro	Thr	Glu	Val	Leu	Ala	Thr	Pro	Gly	Tyr	Phe	Pro	980	985	990	
Thr	Val	Val	Gln	Pro	Tyr	Val	Glu	Ser	Asn	Leu	Leu	Val	Pro	Met	Gly	995	1000	1005	
Gly	Val	Gly	Gly	Gln	Val	Gln	Val	Ser	Gln	Pro	Gly	Gly	Ser	Leu	Ala	1010	1015	1020	
Gln	Ala	Pro	Thr	Thr	Ser	Ser	Gln	Gln	Ala	Val	Leu	Glu	Ser	Thr	Gln	1025	1030	1035	1040
Gly	Val	Ser	Gln	Val	Ala	Pro	Ala	Glu	Pro	Val	Ala	Val	Ala	Gln	Pro	1045	1050	1055	
Gln	Ala	Thr	Gln	Pro	Thr	Thr	Leu	Ala	Ser	Ser	Val	Asp	Ser	Ala	His	1060	1065	1070	
Ser	Asp	Val	Ala	Ser	Gly	Met	Ser	Asp	Gly	Asn	Glu	Asn	Val	Pro	Ser	1075	1080	1085	
Ser	Ser	Gly	Arg	His	Glu	Gly	Arg	Thr	Thr	Lys	Arg	His	Tyr	Arg	Lys	1090	1095	1100	

Ser Val Arg Ser Arg Ser Arg His Glu Lys Thr Ser Arg Pro Lys Leu
 1105 1110 1115 1120

Arg Ile Leu Asn Val Ser Asn Lys Gly Asp Arg Val Val Glu Cys Gln
 1125 1130 1135

Leu Glu Thr His Asn Arg Lys Met Val Thr Phe Lys Phe Asp Leu Asp
 1140 1145 1150

Gly Asp Asn Pro Glu Glu Ile Ala Thr Ile Met Val Asn Asn Asp Phe
 1155 1160 1165

Ile Leu Ala Ile Glu Arg Glu Ser Phe Val Asp Gln Val Arg Glu Ile
 1170 1175 1180

Ile Glu Lys Ala Asp Glu Met Leu Ser Glu Asp Val Ser Val Glu Pro
 1185 1190 1195 1200

Glu Gly Asp Gln Gly Leu Glu Ser Leu Gln Gly Lys Asp Asp Tyr Gly
 1205 1210 1215

Phe Ser Gly Ser Gln Lys Leu Glu Gly Glu Phe Lys Gln Pro Ile Pro
 1220 1225 1230

Ala Ser Ser Met Pro Gln Gln Ile Gly Ile Pro Thr Ser Ser Leu Thr
 1235 1240 1245

Gln Val Val His Ser Ala Gly Arg Arg Phe Ile Val Ser Pro Val Pro
 1250 1255 1260

Glu Ser Arg Leu Arg Glu Ser Lys Val Phe Pro Ser Glu Ile Thr Asp
 1265 1270 1275 1280

Thr Val Ala Ala Ser Thr Ala Gln Ser Pro Gly Met Asn Leu Ser His
 1285 1290 1295

Ser Ala Ser Ser Leu Ser Leu Gln Gln Ala Phe Ser Glu Leu Arg Arg
 1300 1305 1310

Ala Gln Met Thr Glu Gly Pro Asn Thr Ala Pro Pro Asn Phe Ser His
 1315 1320 1325

Thr Gly Pro Thr Phe Pro Val Val Pro Pro Phe Leu Ser Ser Ile Ala
 1330 1335 1340

Gly Val Pro Thr Thr Ala Ala Ala Thr Ala Pro Val Pro Ala Thr Ser
 1345 1350 1355 1360

Ser Pro Pro Asn Asp Ile Ser Thr Ser Val Ile Gln Ser Glu Val Thr
 1365 1370 1375
 Val Pro Thr Glu Glu Gly Ile Ala Gly Val Ala Thr Ser Thr Gly Val
 1380 1385 1390
 Val Thr Ser Gly Gly Leu Pro Ile Pro Pro Val Ser Glu Ser Pro Val
 1395 1400 1405
 Leu Ser Ser Val Val Ser Ser Ile Thr Ile Pro Ala Val Val Ser Ile
 1410 1415 1420
 Ser Thr Thr Ser Pro Ser Leu Gln Val Pro Thr Ser Thr Ser Glu Ile
 1425 1430 1435 1440
 Val Val Ser Ser Thr Ala Leu Tyr Pro Ser Val Thr Val Ser Ala Thr
 1445 1450 1455
 Ser Ala Ser Ala Gly Gly Ser Thr Ala Thr Pro Gly Pro Lys Pro Pro
 1460 1465 1470
 Ala Val Val Ser Gln Gln Ala Ala Gly Ser Thr Thr Val Gly Ala Thr
 1475 1480 1485
 Leu Thr Ser Val Ser Thr Thr Thr Ser Phe Pro Ser Thr Ala Ser Gln
 1490 1495 1500
 Leu Ser Ile Gln Leu Ser Ser Ser Thr Ser Thr Pro Thr Leu Ala Glu
 1505 1510 1515 1520
 Thr Val Val Val Ser Ala His Ser Leu Asp Lys Thr Ser His Ser Ser
 1525 1530 1535
 Thr Thr Gly Leu Ala Phe Ser Leu Ser Ala Pro Ser Ser Ser Ser Ser
 1540 1545 1550
 Pro Gly Ala Gly Val Ser Ser Tyr Ile Ser Gln Pro Gly Gly Leu His
 1555 1560 1565
 Pro Leu Val Ile Pro Ser Val Ile Ala Ser Thr Pro Ile Leu Pro Gln
 1570 1575 1580
 Ala Ala Gly Pro Thr Ser Thr Pro Leu Leu Pro Gln Val Pro Ser Ile
 1585 1590 1595 1600
 Pro Pro Leu Val Gln Pro Val Ala Asn Val Pro Ala Val Gln Gln Thr
 1605 1610 1615

Leu Ile His Ser Gln Pro Gln Pro Ala Leu Leu Pro Asn Gln Pro His
 1620 1625 1630

Thr His Cys Pro Glu Val Asp Ser Asp Thr Gln Pro Lys Ala Pro Gly
 1635 1640 1645

Ile Asp Asp Ile Lys Thr Leu Glu Glu Lys Leu Arg Ser Leu Phe Ser
 1650 1655 1660

Glu His Ser Ser Ser Gly Ala Gln His Ala Ser Val Ser Leu Glu Thr
 1665 1670 1675 1680

Ser Leu Val Ile Glu Ser Thr Val Thr Pro Gly Ile Pro Thr Thr Ala
 1685 1690 1695

Val Ala Pro Ser Lys Leu Leu Thr Ser Thr Thr Ser Thr Cys Leu Pro
 1700 1705 1710

Pro Thr Asn Leu Pro Leu Gly Thr Val Ala Leu Pro Val Thr Pro Val
 1715 1720 1725

Val Thr Pro Gly Gln Val Ser Thr Pro Val Ser Thr Thr Thr Ser Gly
 1730 1735 1740

Val Lys Pro Gly Thr Ala Pro Ser Lys Pro Pro Leu Thr Lys Ala Pro
 1745 1750 1755 1760

Val Leu Pro Val Gly Thr Glu Leu Pro Ala Gly Thr Leu Pro Ser Glu
 1765 1770 1775

Gln Leu Pro Pro Phe Pro Gly Pro Ser Leu Thr Gln Ser Gln Gln Pro
 1780 1785 1790

Leu Glu Asp Leu Asp Ala Gln Leu Arg Arg Thr Leu Ser Pro Glu Ile
 1795 1800 1805

Ile Thr Val Thr Ser Ala Val Gly Pro Val Ser Met Ala Ala Pro Thr
 1810 1815 1820

Ala Ile Thr Glu Ala Gly Thr Gln Pro Gln Lys Gly Val Ser Gln Val
 1825 1830 1835 1840

Lys Glu Gly Pro Val Leu Ala Thr Ser Ser Gly Ala Gly Val Phe Lys
 1845 1850 1855

Met Gly Arg Phe Gln Val Ser Val Ala Ala Asp Gly Ala Gln Lys Glu
 1860 1865 1870

Gly Lys Asn Lys Ser Glu Asp Ala Lys Ser Val His Phe Glu Ser Ser		
1875	1880	1885
Thr Ser Glu Ser Ser Val Leu Ser Ser Ser Ser Pro Glu Ser Thr Leu		
1890	1895	1900
Val Lys Pro Glu Pro Asn Gly Ile Thr Ile Pro Gly Ile Ser Ser Asp		
1905	1910	1915 1920
Val Pro Glu Ser Ala His Lys Thr Thr Ala Ser Glu Ala Lys Ser Asp		
	1925	1930 1935
Thr Gly Gln Pro Thr Lys Val Gly Arg Phe Gln Val Thr Thr Thr Ala		
	1940	1945 1950
Asn Lys Val Gly Arg Phe Ser Val Ser Lys Thr Glu Asp Lys Ile Thr		
	1955	1960 1965
Asp Thr Lys Lys Glu Gly Pro Val Ala Ser Pro Pro Phe Met Asp Leu		
	1970	1975 1980
Glu Gln Ala Val Leu Pro Ala Val Ile Pro Lys Lys Glu Lys Pro Glu		
	1985	1990 1995 2000
Leu Ser Glu Pro Ser His Leu Asn Gly Pro Ser Ser Asp Pro Glu Ala		
	2005	2010 2015
Ala Phe Leu Ser Arg Asp Val Asp Asp Gly Ser Gly Ser Pro His Ser		
	2020	2025 2030
Pro His Gln Leu Ser Ser Lys Ser Leu Pro Ser Gln Asn Leu Ser Gln		
	2035	2040 2045
Ser Leu Ser Asn Ser Phe Asn Ser Ser Tyr Met Ser Ser Asp Asn Glu		
	2050	2055 2060
Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu Glu Leu Arg Arg Leu Arg		
	2065	2070 2075 2080
Asp Lys His Leu Lys Glu Ile Gln Asp Leu Gln Ser Arg Gln Lys His		
	2085	2090 2095
Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly Lys Val Pro Pro Ala Val		
	2100	2105 2110
Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr		
	2115	2120 2125

Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys
 2130 2135 2140

Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly Gln Ser Ala Ala Ser Val
 2145 2150 2155 2160

Leu His Pro Gln Gln Thr Leu His Pro Pro Gly Asn Ile Pro Glu Ser
 2165 2170 2175

Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp
 2180 2185 2190

Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly Ala Ile Ser Val Pro Ser
 2195 2200 2205

Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser Thr Asn Thr Val Gly Ala
 2210 2215 2220

Thr Val Asn Ser Gln Ala Ala Gln Ala Gln Pro Pro Ala Met Thr Ser
 2225 2230 2235 2240

Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu His Lys Leu Val Asp Asn
 2245 2250 2255

Trp Ala Arg Asp Ala Met Asn Leu Ser Gly Arg Arg Gly Ser Lys Gly
 2260 2265 2270

His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser Ala Pro
 2275 2280 2285

Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser Ala Pro
 2290 2295 2300

Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys Ser Met
 2305 2310 2315 2320

Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala Thr Pro Phe Gly Ala Gln
 2325 2330 2335

Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln Pro Leu Gly Gln Phe Gln
 2340 2345 2350

Pro Val Gly Thr Ala Ser Leu Gln Asn Phe Asn Ile Ser Asn Leu Gln
 2355 2360 2365

Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn Leu Arg Thr Thr
 2370 2375 2380

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Description of Artificial Sequence: S_TKc,
Serine/Threonine protein kinases domain sequence

<400> 41

Val Leu Gly Lys Gly Ala Phe Gly Lys Val Tyr Leu Ala Arg Asp Lys
1 5 10 15

Lys Thr Gly Lys Leu Val Ala Ile Lys Val Ile Lys Lys Glu Lys Leu
20 25 30

Lys Lys Lys Lys Arg Glu Arg Ile Leu Arg Glu Ile Lys Ile Leu Lys
35 40 45

Lys Leu Asp His Pro Asn Ile Val Lys Leu Tyr Asp Val Phe Glu Asp
50 55 60

Asp Asp Lys Leu Tyr Leu Val Met Glu Tyr Cys Glu Gly Gly Asp Leu
65 70 75 80

Phe Asp Leu Leu Lys Lys Arg Gly Arg Leu Ser Glu Asp Glu Ala Arg
85 90 95

Phe Tyr Ala Arg Gln Ile Leu Ser Ala Leu Glu Tyr Leu His Ser Gln
100 105 110

Gly Ile Ile His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Ser
115 120 125

Asp Gly His Val Lys Leu Ala Asp Phe Gly Leu Ala Lys Gln Leu Asp
130 135 140

Ser Gly Gly Thr Leu Leu Thr Thr Phe Val Gly Thr Pro Glu Tyr Met
145 150 155 160

Ala Pro Glu Val Leu Leu Gly Lys Gly Tyr Gly Lys Ala Val Asp Ile
165 170 175

Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Pro Pro
180 185 190

Phe Pro Gly Asp Asp Gln Leu Leu Ala Leu Phe Lys Lys Ile Gly Lys

195	200	205
Pro Pro Pro Pro Phe Pro Pro Pro Glu Trp Lys Ile Ser Pro Glu Ala		
210	215	220
Lys Asp Leu Ile Lys Lys Leu Leu Val Lys Asp Pro Glu Lys Arg Leu		
225	230	235 240
Thr Ala Glu Glu Ala Leu Glu His Pro Phe Phe		
245	250	

<210> 42
 <211> 251
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: pkinase,
 Protein kinase domain sequence

<400> 42

Lys Leu Gly Ser Gly Ala Phe Gly Lys Val Tyr Lys Gly Lys His Lys
1 5 10 15
Asp Thr Gly Glu Ile Val Ala Ile Lys Ile Leu Lys Lys Arg Ser Leu
20 25 30
Ser Glu Lys Lys Lys Arg Phe Leu Arg Glu Ile Gln Ile Leu Arg Arg
35 40 45
Leu Ser His Pro Asn Ile Val Arg Leu Leu Gly Val Phe Glu Glu Asp
50 55 60
Asp His Leu Tyr Leu Val Met Glu Tyr Met Glu Gly Gly Asp Leu Phe
65 70 75 80
Asp Tyr Leu Arg Arg Asn Gly Leu Leu Leu Ser Glu Lys Glu Ala Lys
85 90 95
Lys Ile Ala Leu Gln Ile Leu Arg Gly Leu Glu Tyr Leu His Ser Arg
100 105 110
Gly Ile Val His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Glu
115 120 125
Asn Gly Thr Val Lys Ile Ala Asp Phe Gly Leu Ala Arg Lys Leu Glu
130 135 140

Ser Ser Ser Tyr Glu Lys Leu Thr Thr Phe Val Gly Thr Pro Glu Tyr
 145 150 155 160

Met Ala Pro Glu Val Leu Glu Gly Arg Gly Tyr Ser Ser Lys Val Asp
 165 170 175

Val Trp Ser Leu Gly Val Ile Leu Tyr Glu Leu Leu Thr Gly Lys Leu
 180 185 190

Pro Phe Pro Gly Ile Asp Pro Leu Glu Glu Leu Phe Arg Ile Lys Glu
 195 200 205

Arg Pro Arg Leu Arg Leu Pro Leu Pro Pro Asn Cys Ser Glu Glu Leu
 210 215 220

Lys Asp Leu Ile Lys Lys Cys Leu Asn Lys Asp Pro Glu Lys Arg Pro
 225 230 235 240

Thr Ala Lys Glu Ile Leu Asn His Pro Trp Phe
 245 250

<210> 43

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TyrKc,
 Tyrosine kinase domain sequence

<400> 43

Leu Thr Leu Gly Lys Lys Leu Gly Glu Gly Ala Phe Gly Glu Val Tyr
 1 5 10 15

Lys Gly Thr Leu Lys Gly Lys Gly Gly Val Glu Val Glu Val Ala Val
 20 25 30

Lys Thr Leu Lys Glu Asp Ala Ser Glu Gln Gln Ile Glu Glu Phe Leu
 35 40 45

Arg Glu Ala Arg Leu Met Arg Lys Leu Asp His Pro Asn Ile Val Lys
 50 55 60

Leu Leu Gly Val Cys Thr Glu Glu Glu Pro Leu Met Ile Val Met Glu
 65 70 75 80

Tyr Met Glu Gly Gly Asp Leu Leu Asp Tyr Leu Arg Lys Asn Arg Pro
85 90 95

Lys Glu Leu Ser Leu Ser Asp Leu Leu Ser Phe Ala Leu Gln Ile Ala
100 105 110

Arg Gly Met Glu Tyr Leu Glu Ser Lys Asn Phe Val His Arg Asp Leu
115 120 125

Ala Ala Arg Asn Cys Leu Val Gly Glu Asn Lys Thr Val Lys Ile Ala
130 135 140

Asp Phe Gly Leu Ala Arg Asp Leu Tyr Asp Asp Asp Tyr Tyr Arg Lys
145 150 155 160

Lys Lys Ser Pro Arg Leu Pro Ile Arg Trp Met Ala Pro Glu Ser Leu
165 170 175

Lys Asp Gly Lys Phe Thr Ser Lys Ser Asp Val Trp Ser Phe Gly Val
180 185 190

Leu Leu Trp Glu Ile Phe Thr Leu Gly Glu Ser Pro Tyr Pro Gly Met
195 200 205

Ser Asn Glu Glu Val Leu Glu Tyr Leu Lys Lys Gly Tyr Arg Leu Pro
210 215 220

Gln Pro Pro Asn Cys Pro Asp Glu Ile Tyr Asp Leu Met Leu Gln Cys
225 230 235 240

Trp Ala Glu Asp Pro Glu Asp Arg Pro Thr Phe Ser Glu Leu
245 250

<210> 44

<211> 314

<212> PRT

<213> Homo sapiens

<400> 44

Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
1 5 10 15

Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
20 25 30

Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
35 40 45

Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
 50 55 60

His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
 65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
 85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
 130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
 145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
 165 170 175

Phe Leu Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr
 180 185 190

Val Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu
 195 200 205

Ser Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala
 210 215 220

Val Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr
 225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile
 245 250 255

Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met
 260 265 270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu
 290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu
305 310

<210> 45

<211> 233

<212> PRT

<213> Marmota marmota

<400> 45

Pro Met Tyr Leu Phe Leu Gly Asn Leu Ser Phe Leu Asp Leu Ser Phe
1 5 10 15

Thr Ser Ser Ile Pro Gln Leu Leu His Asn Leu Ser Gly Arg Asp Lys
20 25 30

Thr Ile Ser Tyr Val Gly Cys Val Val Gln Leu Phe Leu Phe Leu Gly
35 40 45

Leu Gly Gly Val Glu Cys Leu Leu Leu Ala Val Ala Tyr Asp Arg Val
50 55 60

Ala Val Cys Lys Pro Leu His Tyr Thr Val Ile Met Ser Ser Arg Leu
65 70 75 80

Cys Leu Gly Leu Val Ser Val Ala Trp Gly Cys Gly Met Ala Asn Ser
85 90 95

Leu Val Met Ser Pro Val Thr Leu Gln Leu Pro Arg Cys Gly His Asn
100 105 110

Lys Val Asp His Phe Leu Cys Glu Met Pro Ala Ile Arg Met Ala Cys
115 120 125

Val Asn Thr Val Ala Ile Glu Gly Thr Val Phe Val Leu Ala Val Gly
130 135 140

Ile Val Leu Ser Pro Leu Val Phe Ile Leu Val Ser Tyr Gly His Ile
145 150 155 160

Val Arg Ala Val Phe Arg Ile Gln Ser Ser Ser Gly Arg His Arg Ile
165 170 175

Phe Asn Thr Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly
180 185 190

Asn Ile Ile Tyr Met Tyr Met Gln Pro Gly Ser Arg Ser Ser Gln Asp

195	200	205
Gln Gly Lys Phe Leu Thr Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu		
210	215	220
Asn Pro Phe Ile Tyr Ser Leu Arg Asn		
225	230	
<210> 46		
<211> 320		
<212> PRT		
<213> Homo sapiens		
<400> 46		
Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly		
1	5	10 15
Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala		
20	25	30
Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala		
35	40	45
Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg		
50	55	60
Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln		
65	70	75 80
Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly		
85	90	95
Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys		
100	105	110
Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys		
115	120	125
Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met		
130	135	140
Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys		
145	150	155 160
Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His		
165	170	175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190
 Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
 195 200 205
 Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
 210 215 220
 Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
 225 230 235 240
 Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
 245 250 255
 Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
 260 265 270
 Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285
 Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300
 Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 47

<211> 320

<212> PRT

<213> Homo sapiens

<400> 47

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30
 Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45
 Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Asn	Leu	Ser	Phe	Leu	Asp	Leu	Cys	Phe	Thr	Thr	Ser	Ile	Ile	Pro	Gln	65	70	75	80
Val	Leu	Val	Asn	Leu	Trp	Gly	Pro	Asp	Lys	Thr	Ile	Ser	Tyr	Val	Gly	85	90	95	
Cys	Ile	Ile	Gln	Leu	Tyr	Val	Tyr	Met	Trp	Leu	Gly	Ser	Val	Glu	Cys	100	105	110	
Leu	Leu	Leu	Ala	Val	Met	Ser	Tyr	Asp	Arg	Phe	Thr	Ala	Ile	Cys	Lys	115	120	125	
Pro	Leu	His	Tyr	Phe	Val	Val	Met	Asn	Pro	His	Leu	Cys	Leu	Lys	Met	130	135	140	
Ile	Ile	Met	Ile	Trp	Ser	Ile	Ser	Leu	Ala	Asn	Ser	Val	Val	Leu	Cys	145	150	155	160
Thr	Leu	Thr	Leu	Asn	Leu	Pro	Thr	Cys	Gly	Asn	Asn	Ile	Leu	Asp	His	165	170	175	
Phe	Leu	Cys	Glu	Leu	Pro	Ala	Leu	Val	Lys	Ile	Ala	Cys	Val	Asp	Thr	180	185	190	
Thr	Thr	Val	Glu	Met	Ser	Val	Phe	Ala	Leu	Gly	Ile	Ile	Ile	Val	Leu	195	200	205	
Thr	Pro	Leu	Ile	Leu	Ile	Leu	Ile	Ser	Tyr	Gly	Tyr	Ile	Ala	Lys	Ala	210	215	220	
Val	Leu	Arg	Thr	Lys	Ser	Lys	Ala	Ser	Gln	Arg	Lys	Ala	Met	Asn	Thr	225	230	235	240
Cys	Gly	Ser	His	Leu	Thr	Val	Val	Ser	Met	Phe	Tyr	Gly	Thr	Ile	Ile	245	250	255	
Tyr	Met	Tyr	Leu	Gln	Pro	Gly	Asn	Arg	Ala	Ser	Lys	Asp	Gln	Gly	Lys	260	265	270	
Phe	Leu	Thr	Leu	Phe	Tyr	Thr	Val	Ile	Thr	Pro	Ser	Leu	Asn	Pro	Leu	275	280	285	
Ile	Tyr	Thr	Leu	Arg	Asn	Lys	Asp	Met	Lys	Asp	Ala	Leu	Lys	Lys	Leu	290	295	300	
Met	Arg	Phe	His	His	Lys	Ser	Thr	Lys	Ile	Lys	Arg	Asn	Cys	Lys	Ser	305	310	315	320

<210> 48
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 48
 Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15
 Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30
 Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45
 Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60
 Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80
 Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95
 Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110
 Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125
 Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140
 Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160
 Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
 165 170 175
 Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
 180 185 190
 Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu

195	200	205
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala		
210	215	220
Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr		
225	230	235 240
Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile		
245	250	255
Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys		
260	265	270
Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu		
275	280	285
Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu		
290	295	300
Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser		
305	310	315 320

<210> 49

<211> 253

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 7tm_1, 7
transmembrane receptor domain sequence

<400> 49

Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg		
1	5	10 15
Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu		
20	25	30
Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly		
35	40	45
Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Gly Ala Leu Phe Val		
50	55	60

Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile Asp
65 70 75 80

Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg Thr
85 90 95

Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala Leu
100 105 110

Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val Glu
115 120 125

Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser Val
130 135 140

Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu Pro
145 150 155 160

Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu Arg
165 170 175

Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser Glu
180 185 190

Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val Leu
195 200 205

Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys Leu
210 215 220

Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu Trp
225 230 235 240

Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr
245 250

<210> 50

<211> 315

<212> PRT

<213> Homo sapiens

<400> 50

Met Ala Gln Leu Gly Gly Ala Ala Asn Arg Ala Pro Thr Ala Ser Leu
1 5 10 15

Ala Pro Thr Ser Gln Ser Leu Arg Cys Ala Pro Gln Pro Arg Pro Ser

20	25	30
Arg Ala Asp Thr Gly Ser Leu Gly Arg Tyr Trp Gly Lys Ala Ala Ala		
35	40	45
Ala Ala Ser Arg Glu His Pro Phe Pro Gly Thr Leu Met His Ser Ala		
50	55	60
Ala Gly Ser Gly Arg Arg Arg Gly Ala Leu Arg Glu Leu Leu Gly Leu		
65	70	75
Gln Arg Ala Ala Pro Ala Gly Trp Leu Ser Glu Glu Arg Ala Glu Glu		
85	90	95
Leu Gly Gly Pro Ser Gly Pro Gly Ser Ser Arg Leu Cys Leu Glu Pro		
100	105	110
Arg Glu His Ala Trp Ile Leu Ala Ala Ala Glu Gly Arg Tyr Glu Val		
115	120	125
Leu Arg Glu Leu Leu Glu Ala Glu Pro Glu Leu Leu Leu Arg Gly Asp		
130	135	140
Pro Ile Thr Gly Tyr Ser Val Leu His Trp Leu Ala Lys His Gly Arg		
145	150	155
His Glu Glu Leu Ile Leu Val His Asp Phe Ala Leu Arg Arg Gly Leu		
165	170	175
Arg Leu Asp Val Ser Ala Pro Gly Ser Gly Gly Leu Thr Pro Leu His		
180	185	190
Leu Ala Ala Leu Gln Gly His Asp Met Val Ile Lys Val Leu Val Gly		
195	200	205
Ala Leu Gly Ala Asp Ala Thr Arg Arg Asp His Ser Gly His Arg Ala		
210	215	220
Cys His Tyr Leu Arg Pro Asp Ala Pro Trp Arg Leu Arg Glu Leu Ser		
225	230	235
Gly Ala Glu Glu Trp Glu Met Glu Ser Gly Ser Gly Cys Thr Asn Leu		
245	250	255
Asn Asn Asn Ser Ser Gly Thr Thr Ala Trp Arg Ala Ala Ser Ala Val		
260	265	270
Gly Ala Thr Ala Val Glu Thr Ser Arg Arg Val Ala Ala Ser Arg Thr		

275 280 285
 Lys Ala Lys Asp Thr Ala Gly Ser Arg Val Ala Gln Met His Ser Leu
 290 295 300
 Phe Arg His Leu Phe Pro Ser Phe Gln Asp Arg
 305 310 315

<210> 51
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: domain
 sequence

<400> 51
 Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
 1 5 10 15
 Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp Lys
 20 25 30

<210> 52
 <211> 2062
 <212> PRT
 <213> Homo sapiens

<400> 52
 Met Pro Lys Ser Gly Phe Thr Lys Pro Ile Gln Ser Glu Asn Ser Asp
 1 5 10 15
 Ser Asp Ser Asn Met Val Glu Lys Pro Tyr Gly Arg Lys Ser Lys Asp
 20 25 30
 Lys Ile Ala Ser Tyr Ser Lys Thr Pro Lys Ile Glu Arg Ser Asp Val
 35 40 45
 Ser Lys Glu Met Lys Glu Lys Ser Ser Met Lys Arg Lys Leu Pro Phe
 50 55 60

Thr Ile Ser Pro Ser Arg Asn Glu Glu Arg Asp Ser Asp Thr Asp Ser

65		70		75		80									
Asp	Pro	Gly	His	Thr	Ser	Glu	Asn	Trp	Gly	Glu	Arg	Leu	Ile	Ser	Ser
				85					90					95	
Tyr	Arg	Thr	Tyr	Ser	Glu	Lys	Glu	Gly	Pro	Glu	Lys	Lys	Lys	Thr	Lys
			100					105					110		
Lys	Glu	Ala	Gly	Asn	Lys	Lys	Ser	Thr	Pro	Val	Ser	Ile	Leu	Phe	Gly
		115					120					125			
Tyr	Pro	Leu	Ser	Glu	Arg	Lys	Gln	Met	Ala	Leu	Leu	Met	Gln	Met	Thr
	130					135					140				
Ala	Arg	Asp	Asn	Ser	Pro	Asp	Ser	Thr	Pro	Asn	His	Pro	Ser	Gln	Thr
145					150					155					160
Thr	Pro	Ala	Gln	Lys	Lys	Thr	Pro	Ser	Ser	Ser	Ser	Arg	Gln	Lys	Asp
			165					170						175	
Lys	Val	Asn	Lys	Arg	Asn	Glu	Arg	Gly	Glu	Thr	Pro	Leu	His	Met	Ala
		180						185					190		
Ala	Ile	Arg	Gly	Asp	Val	Lys	Gln	Val	Lys	Glu	Leu	Ile	Ser	Leu	Gly
	195					200					205				
Ala	Asn	Val	Asn	Val	Lys	Asp	Phe	Ala	Gly	Trp	Thr	Pro	Leu	His	Glu
	210				215						220				
Ala	Cys	Asn	Val	Gly	Tyr	Tyr	Asp	Val	Ala	Lys	Ile	Leu	Ile	Ala	Ala
225				230					235					240	
Gly	Ala	Asp	Val	Asn	Thr	Gln	Gly	Leu	Asp	Asp	Asp	Thr	Pro	Leu	His
			245					250						255	
Asp	Ser	Ala	Ser	Ser	Gly	His	Arg	Asp	Ile	Val	Lys	Leu	Leu	Leu	Arg
		260					265					270			
His	Gly	Gly	Asn	Pro	Phe	Gln	Ala	Asn	Lys	His	Gly	Glu	Arg	Pro	Val
	275						280					285			
Asp	Val	Ala	Glu	Thr	Glu	Glu	Leu	Glu	Leu	Leu	Leu	Lys	Arg	Glu	Val
	290				295						300				
Pro	Leu	Ser	Asp	Asp	Asp	Glu	Ser	Tyr	Thr	Asp	Ser	Glu	Glu	Ala	Gln
305				310						315				320	
Ser	Val	Asn	Pro	Ser	Ser	Val	Asp	Glu	Asn	Ile	Asp	Ser	Glu	Thr	Glu

325	330	335
Lys Asp Ser Leu Ile Cys Glu Ser Lys Gln Ile Leu Pro Ser Lys Thr		
340	345	350
Pro Leu Pro Ser Ala Leu Asp Glu Tyr Glu Phe Lys Asp Asp Asp Asp		
355	360	365
Glu Glu Ile Asn Lys Met Ile Asp Asp Arg His Ile Leu Arg Lys Glu		
370	375	380
Gln Arg Lys Glu Asn Glu Pro Glu Ala Glu Lys Thr His Leu Phe Ala		
385	390	395
Lys Gln Glu Lys Ala Phe Tyr Pro Lys Ser Phe Lys Ser Lys Lys Gln		
405	410	415
Lys Pro Ser Arg Val Leu Tyr Ser Ser Thr Glu Ser Ser Asp Glu Glu		
420	425	430
Ala Leu Gln Asn Lys Lys Ile Ser Thr Ser Cys Ser Val Ile Pro Glu		
435	440	445
Thr Ser Asn Ser Asp Met Gln Thr Lys Lys Glu Tyr Val Val Ser Gly		
450	455	460
Glu His Lys Gln Lys Gly Lys Val Lys Arg Lys Leu Lys Asn Gln Asn		
465	470	475
Lys Asn Lys Glu Asn Gln Glu Leu Lys Gln Glu Lys Glu Gly Lys Glu		
485	490	495
Asn Thr Arg Ile Thr Asn Leu Thr Val Asn Thr Gly Leu Asp Cys Ser		
500	505	510
Glu Lys Thr Arg Glu Glu Gly Asn Phe Arg Lys Ser Phe Ser Pro Lys		
515	520	525
Asp Asp Thr Ser Leu His Leu Phe His Ile Ser Thr Gly Lys Ser Pro		
530	535	540
Lys His Ser Cys Gly Leu Ser Glu Lys Gln Ser Thr Pro Leu Lys Gln		
545	550	555
Glu His Thr Lys Thr Cys Leu Ser Pro Gly Ser Ser Glu Met Ser Leu		
565	570	575
Gln Pro Asp Leu Val Arg Tyr Asp Asn Thr Glu Ser Glu Phe Leu Pro		

580					585					590						
Glu	Ser	Ser	Ser	Val	Lys	Ser	Cys	Lys	His	Lys	Glu	Lys	Ser	Lys	His	
		595					600					605				
Gln	Lys	Asp	Phe	His	Leu	Glu	Phe	Gly	Glu	Lys	Ser	Asn	Ala	Lys	Ile	
	610					615					620					
Lys	Asp	Glu	Asp	His	Ser	Pro	Thr	Phe	Glu	Asn	Ser	Asp	Cys	Thr	Leu	
625					630					635					640	
Lys	Lys	Met	Asp	Lys	Glu	Gly	Lys	Thr	Leu	Lys	Lys	His	Lys	Leu	Lys	
				645					650					655		
His	Lys	Glu	Arg	Glu	Lys	Glu	Lys	His	Lys	Lys	Glu	Ile	Glu	Gly	Glu	
			660					665					670			
Lys	Glu	Lys	Tyr	Lys	Thr	Lys	Asp	Ser	Ala	Lys	Glu	Leu	Gln	Arg	Ser	
		675					680					685				
Val	Glu	Phe	Asp	Arg	Glu	Phe	Trp	Lys	Glu	Asn	Phe	Phe	Lys	Ser	Asp	
	690					695					700					
Glu	Thr	Glu	Asp	Leu	Phe	Leu	Asn	Met	Glu	His	Glu	Ser	Leu	Thr	Leu	
705						710					715				720	
Glu	Lys	Lys	Ser	Lys	Leu	Glu	Lys	Asn	Ile	Lys	Asp	Asp	Lys	Ser	Thr	
				725					730					735		
Lys	Glu	Lys	His	Val	Ser	Lys	Glu	Arg	Asn	Phe	Lys	Glu	Glu	Arg	Asp	
			740					745					750			
Lys	Ile	Lys	Lys	Glu	Ser	Glu	Lys	Ser	Phe	Arg	Glu	Glu	Lys	Ile	Lys	
	755					760					765					
Asp	Leu	Lys	Glu	Glu	Arg	Glu	Asn	Ile	Pro	Thr	Asp	Lys	Asp	Ser	Glu	
	770					775					780					
Phe	Thr	Ser	Leu	Gly	Met	Ser	Ala	Ile	Glu	Glu	Ser	Ile	Gly	Leu	His	
785						790					795				800	
Leu	Val	Glu	Lys	Glu	Ile	Asp	Ile	Glu	Lys	Gln	Glu	Lys	His	Ile	Lys	
				805					810					815		
Glu	Ser	Lys	Glu	Lys	Pro	Glu	Lys	Arg	Ser	Gln	Ile	Lys	Glu	Lys	Asp	
			820					825					830			
Ile	Glu	Lys	Met	Glu	Arg	Lys	Thr	Phe	Glu	Lys	Glu	Lys	Lys	Ile	Lys	

835		840		845
His Glu His Lys Ser Glu Lys Asp Lys Leu Asp Leu Ser Glu Cys Val				
850		855		860
Asp Lys Ile Lys Glu Lys Asp Lys Leu Tyr Ser His His Thr Glu Lys				
865		870		875
				880
Cys His Lys Glu Gly Glu Lys Ser Lys Asn Thr Ala Ala Ile Lys Lys				
		885		890
				895
Thr Asp Asp Arg Glu Lys Ser Arg Glu Lys Met Asp Arg Lys His Asp				
		900		905
				910
Lys Glu Lys Pro Glu Lys Glu Arg His Leu Ala Glu Ser Lys Glu Lys				
		915		920
				925
His Leu Met Glu Lys Lys Asn Lys Gln Ser Asp Asn Ser Glu Tyr Ser				
		930		935
				940
Lys Ser Glu Lys Gly Lys Asn Lys Glu Lys Asp Arg Glu Leu Asp Lys				
		945		950
				955
				960
Lys Glu Lys Ser Arg Asp Lys Glu Ser Ile Asn Ile Thr Asn Ser Lys				
		965		970
				975
His Ile Gln Glu Glu Lys Lys Ser Ser Ile Val Asp Gly Asn Lys Ala				
		980		985
				990
Gln His Glu Lys Pro Leu Ser Leu Lys Glu Lys Thr Lys Asp Glu Pro				
		995		1000
				1005
Leu Lys Thr Pro Asp Gly Lys Glu Lys Asp Lys Lys Asp Lys Asp Ile				
		1010		1015
				1020
Asp Arg Tyr Lys Glu Arg Asp Lys His Lys Asp Lys Ile Gln Ile Asn				
		1025		1030
				1035
				1040
Ser Leu Leu Lys Leu Lys Ser Glu Ala Asp Lys Pro Lys Pro Lys Ser				
		1045		1050
				1055
Ser Pro Ala Ser Lys Asp Thr Arg Pro Lys Glu Lys Arg Leu Val Asn				
		1060		1065
				1070
Asp Asp Leu Met Gln Thr Ser Phe Glu Arg Met Leu Ser Leu Lys Asp				
		1075		1080
				1085
Leu Glu Ile Glu Gln Trp His Lys Lys His Lys Glu Lys Ile Lys Gln				

1090	1095	1100
Lys Glu Lys Glu Arg Leu Arg Asn Arg Asn Cys Leu Glu Leu Lys Ile		
1105	1110	1115 1120
Lys Asp Lys Glu Lys Thr Lys His Thr Pro Thr Glu Ser Lys Asn Lys		
1125	1130	1135
Glu Leu Thr Arg Ser Lys Ser Ser Glu Val Thr Asp Ala Tyr Thr Lys		
1140	1145	1150
Glu Lys Gln Pro Lys Asp Ala Val Ser Asn Arg Ser Gln Ser Val Asp		
1155	1160	1165
Thr Lys Asn Val Met Thr Leu Gly Lys Ser Ser Phe Val Ser Asp Asn		
1170	1175	1180
Ser Leu Asn Arg Ser Pro Arg Ser Glu Asn Glu Lys Pro Gly Leu Ser		
1185	1190	1195 1200
Ser Arg Ser Val Ser Met Ile Ser Val Ala Ser Ser Glu Asp Ser Cys		
1205	1210	1215
His Thr Thr Val Thr Thr Pro Arg Pro Pro Val Glu Tyr Asp Ser Asp		
1220	1225	1230
Phe Met Leu Glu Ser Ser Glu Ser Gln Met Ser Phe Ser Gln Ser Pro		
1235	1240	1245
Phe Leu Ser Ile Ala Lys Ser Pro Ala Leu His Glu Arg Glu Leu Asp		
1250	1255	1260
Ser Leu Ala Asp Leu Pro Glu Arg Ile Lys Pro Pro Tyr Ala Asn Arg		
1265	1270	1275 1280
Leu Ser Thr Ser His Leu Arg Ser Ser Ser Val Glu Asp Val Lys Leu		
1285	1290	1295
Ile Ile Ser Glu Gly Arg Pro Thr Ile Glu Val Arg Arg Cys Ser Met		
1300	1305	1310
Pro Ser Val Ile Cys Glu His Thr Lys Gln Phe Gln Thr Ile Ser Glu		
1315	1320	1325
Glu Ser Asn Gln Gly Ser Leu Leu Thr Val Pro Gly Asp Thr Ser Pro		
1330	1335	1340
Ser Pro Lys Pro Glu Val Phe Ser Asn Val Pro Glu Arg Asp Leu Ser		

1345	1350	1355	1360
Asn Val Ser Asn Ile His Ser Ser Phe Ala Thr Ser Pro Thr Gly Ala			
1365	1370	1375	
Ser Asn Ser Lys Tyr Val Ser Ala Asp Arg Asn Leu Ile Lys Asn Thr			
1380	1385	1390	
Ala Pro Val Asn Thr Val Met Asp Ser Pro Val His Leu Glu Pro Ser			
1395	1400	1405	
Ser Gln Val Gly Val Ile Gln Asn Lys Ser Trp Glu Met Pro Val Asp			
1410	1415	1420	
Arg Leu Glu Thr Leu Ser Thr Arg Asp Phe Ile Cys Pro Asn Ser Asn			
1425	1430	1435	1440
Ile Pro Asp Gln Glu Ser Ser Leu Gln Ser Phe Cys Asn Ser Glu Asn			
1445	1450	1455	
Lys Val Leu Lys Glu Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu			
1460	1465	1470	
Leu Pro Gly Asn Ser Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro			
1475	1480	1485	
Gln Gln Pro Cys Ser Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser			
1490	1495	1500	
Ile Ser Lys His Met Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly			
1505	1510	1515	1520
Ile Leu Gln Gln Lys Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp			
1525	1530	1535	
Thr Asp Asn Glu Ser Thr Lys Asp Thr Glu Asn Thr Phe Val Leu Gly			
1540	1545	1550	
Asp Val Gln Lys Thr Asp Ala Phe Val Pro Val Tyr Ser Asp Ser Thr			
1555	1560	1565	
Ile Gln Glu Ala Ser Pro Asn Phe Glu Lys Ala Tyr Thr Leu Pro Val			
1570	1575	1580	
Leu Pro Ser Glu Lys Asp Phe Asn Gly Ser Asp Ala Ser Thr Gln Leu			
1585	1590	1595	1600
Asn Thr His Tyr Ala Phe Ser Lys Leu Thr Tyr Lys Ser Ser Ser Gly			

1605	1610	1615
His Glu Val Glu Asn Ser Thr Thr Asp Thr Gln Val Ile Ser His Glu		
1620	1625	1630
Lys Glu Asn Lys Leu Glu Ser Leu Val Leu Thr His Leu Ser Arg Cys		
1635	1640	1645
Asp Ser Asp Leu Cys Glu Met Asn Ala Gly Met Pro Lys Gly Asn Leu		
1650	1655	1660
Asn Glu Gln Asp Pro Lys His Cys Pro Glu Ser Glu Lys Cys Leu Leu		
1665	1670	1675
Ser Ile Glu Asp Glu Glu Ser Gln Gln Ser Ile Leu Ser Ser Leu Glu		
1685	1690	1695
Asn His Ser Gln Gln Ser Thr Gln Pro Glu Met His Lys Tyr Gly Gln		
1700	1705	1710
Leu Val Lys Val Glu Leu Glu Glu Asn Ala Glu Asp Asp Lys Thr Glu		
1715	1720	1725
Asn Gln Ile Pro Gln Arg Met Thr Arg Asn Lys Ala Asn Thr Met Ala		
1730	1735	1740
Asn Gln Ser Lys Gln Ile Leu Ala Ser Cys Thr Leu Leu Ser Glu Lys		
1745	1750	1755
Asp Ser Glu Ser Ser Ser Pro Arg Gly Arg Ile Arg Leu Thr Glu Asp		
1765	1770	1775
Asp Asp Pro Gln Ile His His Pro Arg Lys Arg Lys Val Ser Arg Val		
1780	1785	1790
Pro Gln Pro Val Gln Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys		
1795	1800	1805
Thr Gln Gln Ser Leu Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu		
1810	1815	1820
Ile Gln Pro Tyr Ser Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu		
1825	1830	1835
His Ile Arg Lys Lys Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val		
1845	1850	1855
Ile Pro Gln Ala Pro Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly		

1860	1865	1870
Ser Tyr Leu Leu Asp Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr		
1875	1880	1885
Ile Thr Pro Pro Pro Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg		
1890	1895	1900
Gln Gln Glu Val Val Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu		
1905	1910	1915 1920
Arg Glu Lys Leu Ile Val Ser Asn Glu Gln Glu Val Leu Arg Val His		
1925	1930	1935
Tyr Arg Ala Ala Arg Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala		
1940	1945	1950
Cys Thr Val Leu Leu Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser		
1955	1960	1965
Gln Ser Asp Asp Ser Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg		
1970	1975	1980
Gln Phe Met Ser Trp Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu		
1985	1990	1995 2000
Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn		
2005	2010	2015
Ala Val Gln Arg Leu Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro		
2020	2025	2030
Ala Thr Tyr Lys Ser Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val		
2035	2040	2045
Pro Leu Val Asp Val Asn Asp Asp Phe Glu Leu Thr Pro Ile		
2050	2055	2060

<210> 53

<211> 399

<212> PRT

<213> Homo sapiens

<400> 53

Met	Pro	Gln	Ser	Ser	Ala	Lys	Asp	Tyr	Leu	Gly	Glu	Tyr	Cys	Ile	Leu
1				5					10					15	

Lys Ala Gln Ala Ala Asp Gly Ala Gly Pro Glu Asp Asp Thr Glu Ala
 20 25 30
 Ser Arg Ala Ala Ala Pro Ala Glu Gly Pro Pro Gly Gly Ile Gln Pro
 35 40 45
 Glu Ala Ala Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg
 50 55 60
 Val Glu Glu Ile Pro Gln Arg Met Thr Arg Asn Arg Ala Gln Met Leu
 65 70 75 80
 Ala Asn Gln Ser Lys Gln Gly Pro Pro Pro Ser Glu Lys Glu Cys Ala
 85 90 95
 Pro Thr Pro Ala Pro Val Thr Arg Ala Lys Ala Arg Gly Ser Glu Asp
 100 105 110
 Asp Asp Ala Gln Ala Gln His Pro Arg Lys Arg Arg Phe Gln Arg Ser
 115 120 125
 Thr Gln Gln Leu Gln Gln Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg
 130 135 140
 Glu Val Ile Gln Gln Thr Leu Ala Ala Ile Val Asp Ala Ile Lys Leu
 145 150 155 160
 Asp Ala Ile Glu Pro Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu
 165 170 175
 Tyr Leu Gln Ile Arg Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys
 180 185 190
 Cys Ile Thr Pro Gln Ala Pro Gln Trp Tyr Ala Gln Tyr Val Thr Tyr
 195 200 205
 Thr Gly Ser Tyr Leu Leu Asp Gly Lys Pro Leu Ser Lys Leu His Ile
 210 215 220
 Pro Val Ile Ala Pro Pro Pro Ser Leu Ala Glu Pro Leu Lys Glu Leu
 225 230 235 240
 Phe Arg Gln Gln Glu Ala Val Arg Gly Lys Leu Arg Leu Gln His Ser
 245 250 255
 Ile Glu Arg Glu Lys Leu Ile Val Ser Cys Glu Gln Glu Ile Leu Arg
 260 265 270

Val His Cys Arg Ala Ala Arg Thr Ile Ala Asn Gln Ala Val Pro Phe
275 280 285

Ser Thr Cys Thr Met Leu Leu Asp Ser Glu Val Tyr Asn Met Pro Leu
290 295 300

Glu Ser Gln Gly Asp Glu Asn Lys Ser Val Arg Asp Arg Phe Asn Ala
305 310 315 320

Arg Gln Phe Ile Ser Trp Leu Gln Asp Val Asp Asp Lys Tyr Asp Arg
325 330 335

Met Lys Thr Cys Leu Leu Met Arg Gln Gln His Glu Ala Ala Ala Leu
340 345 350

Asn Ala Val Gln Arg Met Glu Trp Gln Leu Lys Val Gln Glu Leu Asp
355 360 365

Pro Ala Gly His Lys Ser Leu Cys Val Asn Glu Val Pro Ser Phe Tyr
370 375 380

Val Pro Met Val Asp Val Asn Asp Asp Phe Val Leu Leu Pro Ala
385 390 395

<210> 54

<211> 366

<212> PRT

<213> Homo sapiens

<400> 54

Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro
1 5 10 15

Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp
20 25 30

Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly
35 40 45

Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala
50 55 60

Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro
65 70 75 80

Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu
85 90 95

Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser		
100	105	110
Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser		
115	120	125
Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr		
130	135	140
Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys		
145	150	155 160
Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala		
165	170	175
Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala		
180	185	190
Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala		
195	200	205
Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly		
210	215	220
Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp		
225	230	235 240
Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr		
245	250	255
Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys		
260	265	270
Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr		
275	280	285
Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp		
290	295	300
Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp		
305	310	315 320
Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His		
325	330	335
Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr		
340	345	350

Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr
 355 360 365

<210> 55
 <211> 366
 <212> PRT
 <213> Homo sapiens

<400> 55
 Met Pro Lys Gly Gly Cys Pro Lys Ala Pro Gln Gln Glu Glu Leu Pro
 1 5 10 15
 Leu Ser Ser Asp Met Val Glu Lys Gln Thr Gly Lys Lys Asp Lys Asp
 20 25 30
 Lys Val Ser Leu Thr Lys Thr Pro Lys Leu Glu Arg Gly Asp Gly Gly
 35 40 45
 Lys Glu Val Arg Glu Arg Ala Ser Lys Arg Lys Leu Pro Phe Thr Ala
 50 55 60
 Gly Ala Asn Gly Glu Gln Lys Asp Ser Asp Thr Glu Lys Gln Gly Pro
 65 70 75 80
 Glu Arg Lys Arg Ile Lys Lys Glu Pro Val Thr Arg Lys Ala Gly Leu
 85 90 95
 Leu Phe Gly Met Gly Leu Ser Gly Ile Arg Ala Gly Tyr Pro Leu Ser
 100 105 110
 Glu Arg Gln Gln Val Ala Leu Leu Met Gln Met Thr Ala Glu Glu Ser
 115 120 125
 Ala Asn Ser Pro Val Asp Thr Thr Pro Lys His Pro Ser Gln Ser Thr
 130 135 140
 Val Cys Gln Lys Gly Thr Pro Asn Ser Ala Ser Lys Thr Lys Asp Lys
 145 150 155 160
 Leu Asn Lys Arg Asn Glu Arg Gly Glu Thr Arg Leu His Arg Ala Ala
 165 170 175
 Ile Arg Gly Asp Ala Arg Arg Ile Lys Glu Leu Ile Ser Glu Gly Ala
 180 185 190
 Asp Val Asn Val Lys Asp Phe Ala Gly Trp Thr Ala Leu His Glu Ala

195	200	205
Cys Asn Arg Gly Tyr Tyr Asp Val Ala Lys Gln Leu Leu Ala Ala Gly		
210	215	220
Ala Glu Val Asn Thr Lys Gly Leu Asp Asp Asp Thr Pro Leu His Asp		
225	230	235 240
Ala Ala Asn Asn Gly His Tyr Lys Val Val Lys Leu Leu Leu Arg Tyr		
	245	250 255
Gly Gly Asn Pro Gln Gln Ser Asn Arg Lys Gly Glu Thr Pro Leu Lys		
	260	265 270
Val Ala Asn Ser Pro Thr Met Val Asn Leu Leu Leu Gly Lys Gly Thr		
	275	280 285
Tyr Thr Ser Ser Glu Glu Ser Ser Thr Glu Ser Ser Glu Glu Glu Asp		
	290	295 300
Ala Pro Ser Phe Ala Pro Ser Ser Ser Val Asp Gly Asn Asn Thr Asp		
305	310	315 320
Ser Glu Phe Glu Lys Gly Ser Ser Thr Arg Pro Arg Thr Gln Ser His		
	325	330 335
Arg Arg Pro Arg Pro Pro Ser Arg Thr Ser Met Ser Leu Met Arg Thr		
	340	345 350
Thr Ser Arg Thr Gly Phe Leu Arg Trp Thr Thr Ser Thr Tyr		
	355	360 365

<210> 56

<211> 601

<212> PRT

<213> Homo sapiens

<400> 56

Asn Ala Asp Phe Leu Ser Leu Arg Gln Thr Glu Leu Pro Gly Asn Ser
1 5 10 15

Cys Ala Gln Asp Pro Ala Ser Phe Met Pro Pro Gln Gln Pro Cys Ser
20 25 30

Phe Pro Ser Gln Ser Leu Ser Asp Ala Glu Ser Ile Ser Lys His Met
35 40 45

Ser Leu Ser Tyr Val Ala Asn Gln Glu Pro Gly Ile Leu Gln Gln Lys
 50 55 60

Asn Ala Val Gln Ile Ile Ser Ser Ala Leu Asp Thr Asp Asn Glu Ser
 65 70 75 80

Thr Lys Asp Thr Glu Asn Thr Phe Val Leu Gly Asp Val Gln Lys Thr
 85 90 95

Asp Ala Phe Val Pro Val Tyr Ser Asp Ser Thr Ile Gln Glu Ala Ser
 100 105 110

Pro Asn Phe Glu Lys Ala Tyr Thr Leu Pro Val Leu Pro Ser Glu Lys
 115 120 125

Asp Phe Asn Gly Ser Asp Ala Ser Thr Gln Leu Asn Thr His Tyr Ala
 130 135 140

Phe Ser Lys Leu Thr Tyr Lys Ser Ser Ser Gly His Glu Val Glu Asn
 145 150 155 160

Ser Thr Thr Asp Thr Gln Val Ile Ser His Glu Lys Glu Asn Lys Leu
 165 170 175

Glu Ser Leu Val Leu Thr His Leu Ser Arg Cys Asp Ser Asp Leu Cys
 180 185 190

Glu Met Asn Ala Gly Met Pro Lys Gly Asn Leu Asn Glu Gln Asp Pro
 195 200 205

Lys His Cys Pro Glu Ser Glu Lys Cys Leu Leu Ser Ile Glu Asp Glu
 210 215 220

Glu Ser Gln Gln Ser Ile Leu Ser Ser Leu Glu Asn His Ser Gln Gln
 225 230 235 240

Ser Thr Gln Pro Glu Met His Lys Tyr Gly Gln Leu Val Lys Val Glu
 245 250 255

Leu Glu Glu Asn Ala Glu Asp Asp Lys Thr Glu Asn Gln Ile Pro Gln
 260 265 270

Arg Met Thr Arg Asn Lys Ala Asn Thr Met Ala Asn Gln Ser Lys Gln
 275 280 285

Ile Leu Ala Ser Cys Thr Leu Leu Ser Glu Lys Asp Ser Glu Ser Ser
 290 295 300

Ser Pro Arg Gly Arg Ile Arg Leu Thr Glu Asp Asp Asp Pro Gln Ile
 305 310 315 320
 His His Pro Arg Lys Arg Lys Val Ser Arg Val Pro Gln Pro Val Gln
 325 330 335
 Val Ser Pro Ser Leu Leu Gln Ala Lys Glu Lys Thr Gln Gln Ser Leu
 340 345 350
 Ala Ala Ile Val Asp Ser Leu Lys Leu Asp Glu Ile Gln Pro Tyr Ser
 355 360 365
 Ser Glu Arg Ala Asn Pro Tyr Phe Glu Tyr Leu His Ile Arg Lys Lys
 370 375 380
 Ile Glu Glu Lys Arg Lys Leu Leu Cys Ser Val Ile Pro Gln Ala Pro
 385 390 395 400
 Gln Tyr Tyr Asp Glu Tyr Val Thr Phe Asn Gly Ser Tyr Leu Leu Asp
 405 410 415
 Gly Asn Pro Leu Ser Lys Ile Cys Ile Pro Thr Ile Thr Pro Pro Pro
 420 425 430
 Ser Leu Ser Asp Pro Leu Lys Glu Leu Phe Arg Gln Gln Glu Val Val
 435 440 445
 Arg Met Lys Leu Arg Leu Gln His Ser Ile Glu Arg Glu Lys Leu Ile
 450 455 460
 Val Ser Asn Glu Gln Glu Val Leu Arg Val His Tyr Arg Ala Ala Arg
 465 470 475 480
 Thr Leu Ala Asn Gln Thr Leu Pro Phe Ser Ala Cys Thr Val Leu Leu
 485 490 495
 Asp Ala Glu Val Tyr Asn Val Pro Leu Asp Ser Gln Ser Asp Asp Ser
 500 505 510
 Lys Thr Ser Val Arg Asp Arg Phe Asn Ala Arg Gln Phe Met Ser Trp
 515 520 525
 Leu Gln Asp Val Asp Asp Lys Phe Asp Lys Leu Lys Thr Cys Leu Leu
 530 535 540
 Met Arg Gln Gln His Glu Ala Ala Ala Leu Asn Ala Val Gln Arg Leu
 545 550 555 560

Glu Trp Gln Leu Lys Leu Gln Glu Leu Asp Pro Ala Thr Tyr Lys Ser
565 570 575

Ile Ser Ile Tyr Glu Ile Gln Glu Phe Tyr Val Pro Leu Val Asp Val
580 585 590

Asn Asp Asp Phe Glu Leu Thr Pro Ile
595 600

<210> 57
<211> 999
<212> PRT
<213> Homo sapiens

<400> 57
Met Ile Ser Glu Glu Lys Glu Trp Leu Phe Lys Asp Glu Ile Ile Lys
1 5 10 15

Val Ser Lys Asp Glu Lys Ser Leu Lys Arg Ile Lys Gly Met Asn Lys
20 25 30

Asp Ile Ser Arg Ser Phe Gln Glu Glu Lys Asp Cys Ser Asn Thr Ala
35 40 45

Glu Lys Glu Lys Ser Leu Lys Glu Lys Ser Ser Lys Glu Glu Lys Leu
50 55 60

Arg Leu Tyr Lys Glu Glu Arg Lys Thr Pro Lys Arg Gln Lys Asp Lys
65 70 75 80

Glu Pro Lys Asp Lys Arg Lys Asp Thr Gly Ala Ala Asp Gly Val Thr
85 90 95

Asp Lys Lys Glu Lys Val Leu Glu Lys His Lys Glu Lys Lys Val Lys
100 105 110

Glu Tyr Gln Lys Asn Lys Lys Asn Lys Gln Lys Leu Pro Glu Lys Ala
115 120 125

Glu Lys Lys Gln Ser Ala Glu Asp Lys Ala Asn Ser Lys His Lys Glu
130 135 140

Lys Ser Asp Lys Glu Tyr Ser Lys Glu Arg Lys Ser Leu Arg Ser Ala
145 150 155 160

Asp Met Glu Lys Ser Leu Leu Glu Lys Leu Glu Glu Ala Leu His Glu
165 170 175

Tyr Arg Asp Asp Ser Ser Asp Lys Ile Thr Thr Thr Glu Arg Asp Ser
180 185 190

Gln Glu Arg Lys Val Pro Glu Glu Lys Gly Arg Asp Tyr Lys Glu Gly
195 200 205

Gly Ser Arg Lys Asp Thr Gly Gln Tyr Glu Lys Asp Phe Leu Glu Met
210 215 220

Val Ala Tyr Gly Val Ser Tyr Asn Met Lys Ala Val Ile Glu Asp Arg
225 230 235 240

Leu Asn Lys Thr Val Glu Leu Phe Ser Thr Glu Lys Lys Asp Lys Asn
245 250 255

Asp Ser Glu Arg Glu Thr Ser Lys Lys Ile Glu Lys Glu Leu Lys Pro
260 265 270

Tyr Gly Ser Arg Thr Lys Gln Lys Pro Thr Ala Arg Asp Lys Asp Ser
275 280 285

Pro Pro Arg Ala Leu Lys Asp Lys Ser Arg Asp Glu Asp Pro Arg Leu
290 295 300

Arg Lys Ala Lys Leu Lys Glu Lys Phe Lys Asp Ser Ala Glu Lys Glu
305 310 315 320

Lys Asp Asp Ser Val Lys Met Ser Lys Gly Asp Asp Lys Val Ser Pro
325 330 335

Ser Lys Asp Pro Gly Lys Lys Asn Ala Arg Pro Arg Glu Lys Leu Arg
340 345 350

Gly Asp Gly Asp Met Met Ile Ile Ser Phe Gln Arg Met Phe Ser Gln
355 360 365

Lys Asp Leu Glu Ile Glu Glu Arg His Lys Gly His Lys Glu Arg Met
370 375 380

Lys Gln Met Glu Lys Leu Arg His Gln Ser Arg Asp Pro Asn Leu Lys
385 390 395 400

Glu Arg Ala Lys Pro Ala Asp Asp Gly Arg Lys Lys Gly Leu Glu Ile
405 410 415

Pro Ala Lys Lys Pro Pro Gly Leu Asp Pro Pro Phe Lys Asp Lys Lys
420 425 430

Leu Lys Glu Leu Thr Pro Ile Pro Pro Ala Ala Glu Asn Lys Pro Arg
435 440 445

Pro Gly Ser Gly Ala Asp Ser Lys Asp Trp Leu Ala Gly Pro His Met
450 455 460

Lys Glu Val Leu Pro Ala Ser Pro Arg Pro Asp Gln Ser Arg Pro Val
465 470 475 480

Cys Pro Pro Leu Arg Arg Cys Cys Pro Ala Ser Ala Thr Arg Arg Gly
485 490 495

His Ser Pro Ala Pro Gly Arg His Arg Gly Pro Ala Gly Tyr Ser Pro
500 505 510

His His Pro Pro Gly Ala Gln Leu Pro Gly Ala Ala Gly Arg Gly Leu
515 520 525

Ile Gly Ser Ala Ser Glu Asn Pro Val Ser Trp Pro Val Gly Ser Glu
530 535 540

Leu Leu Leu Lys Ser Pro Gln Arg Phe Pro Glu Ser Pro Glu Tyr Phe
545 550 555 560

Cys Ser Ala Asp Ser Leu His Ser Ala Ala Pro Gly Pro Phe Ser Ala
565 570 575

Ser Glu Asn Thr Leu Leu Ile Ala Glu Pro Gly Leu Glu Asp Val Lys
580 585 590

Asp Arg Val Glu Ala Ile Pro Ala Thr Ile Ser Thr Ser Glu Ala Ala
595 600 605

Pro Tyr Ala Pro Pro Ser Gly Leu Glu Ser Phe Phe Asn Asn Cys Lys
610 615 620

Ser Leu Pro Glu Ser Leu Leu Asp Met Ala Pro Glu Ala Cys Asn His
625 630 635 640

Cys Gly Ser Asp Ala Phe Ala Gly Ser Glu Asp Asp Leu Asp Leu Gly
645 650 655

Ser Phe Ser Leu Pro Glu Leu Pro Leu Gln Thr Lys Asp Val Pro Asp
660 665 670

Val Glu Thr Glu Pro Thr Glu Glu Ser Leu Ala Pro Ser Glu Lys Ile
675 680 685

Pro Pro Gly Ala Pro Val Val Leu Pro Thr Glu Leu Glu Pro Glu Pro
 690 695 700

Ser Glu Glu Pro Lys Leu Asp Val Ala Leu Glu Ala Thr Glu Ala Glu
 705 710 715 720

Ala Val Pro Glu Glu Arg Ala Ser Gly Asp Leu Asp Ser Ser Met Glu
 725 730 735

Pro Thr Pro Val Arg Pro Glu Gln Cys Gln Leu Gly Ser Arg Asp Gln
 740 745 750

Gly Ala Glu Ala Glu His Leu Leu Pro Pro Ala Ala Ser Leu Cys Ala
 755 760 765

Pro Asp Thr Pro Cys Pro Pro Trp Thr Leu Trp His Lys Pro Arg Leu
 770 775 780

Arg Thr Val Leu Ala Pro Thr Thr Thr Leu Arg Ala Ser Arg Ala Ala
 785 790 795 800

Ala Pro Ala Glu Gly Pro Pro Cys Gly Ile Asp Pro Glu Ala Thr Glu
 805 810 815

Ser Glu Pro Lys Pro Thr Ala Glu Ala Pro Lys Ala Pro Arg His Ser
 820 825 830

Thr Gln Gln Leu Asn Thr Ser Thr Gln Gln Thr Arg Glu Val Ile Gln
 835 840 845

Gln Thr Leu Ala Thr Ile Val Asp Ala Ile Lys Leu Asp Ala Ile Tyr
 850 855 860

Pro Tyr His Ser Asp Arg Ala Asn Pro Tyr Phe Glu Phe Leu His Ile
 865 870 875 880

Arg Lys Lys Ile Glu Glu Lys Arg Lys Ile Leu Cys Cys Ile Thr Pro
 885 890 895

Gln Ala Thr Gln Trp Tyr Ala Glu Tyr Val Thr Tyr Thr Gly Ser Tyr
 900 905 910

Leu Leu Asp Gly Lys Ser Leu Ser Lys Leu His Met Pro Met Ile Ala
 915 920 925

Pro Pro Pro Ser Leu Arg Ala Ser Ala Thr Arg Thr Ser Gln Cys Ala
 930 935 940

Thr Gly Ser Thr Pro Ala Ser Ser Ser Pro Gly Ser Met Thr Trp Thr
 945 950 955 960

Thr Ile Gln Pro His Glu Asp Leu Leu Thr Trp Gln Gln His Glu Ala
 965 970 975

Ala Ala Leu Asn Ala Met Gln Arg Met Glu Trp Gln Leu Lys Val Gln
 980 985 990

Lys Leu Asp Pro Ala Gly His
 995

<210> 58

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
 repeats domain sequence

<400> 58

Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
 1 5 10 15

Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn
 20 25

<210> 59

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
 repeats domain sequence

<400> 59

Asp Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu
 1 5 10 15

Val Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp
 20 25 30

Lys

<210> 60
<211> 31
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 60

Gly Asn Thr Pro Leu His Leu Ala Ala Arg Asn Gly His Leu Glu Val
1 5 10 15

Val Lys Leu Leu Leu Glu Ala Gly Ala Asp Val Asn Ala Arg Asp
20 25 30

<210> 61
<211> 28
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 61

Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val
1 5 10 15

Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn
20 25

<210> 62
<211> 28
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 62

Asp Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu

1	5	10	15
---	---	----	----

Val Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile
20 25

<210> 63
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: ANK, ankyrin
repeats domain sequence

<400> 63
Gly Arg Thr Pro Leu His Leu Ala Ala Glu Asn Gly Asn Leu Glu Val
1 5 10 15

Val Lys Leu Leu Leu Asp Lys Gly Ala Asp Ile Asn Leu
20 25

<210> 64
<211> 287
<212> PRT
<213> Homo sapiens

<400> 64
Met Pro Pro Thr Lys Pro Phe Leu Ala Pro Glu Thr Thr Ser Pro Gly
1 5 10 15

Asp Arg Val Glu Thr Pro Val Gly Glu Arg Ala Pro Thr Pro Val Ser
20 25 30

Ala Ser Ser Glu Val Ser Pro Glu Ser Gln Glu Asp Ser Glu Thr Pro
35 40 45

Ala Glu Glu Asp Ser Gly Ser Glu Gln Pro Pro Asn Ser Val Leu Pro
50 55 60

Asp Lys Leu Lys Val Ser Trp Glu Asn Pro Ser Pro Gln Glu Ala Pro
65 70 75 80

Ala Ala Glu Ser Ala Glu Ser Ser Gln Ala Pro Cys Ser Glu Thr Ser
85 90 95

Glu Ala Ala Pro Arg Glu Gly Gly Lys Pro Pro Thr Pro Pro Pro Lys

100	105	110
Ile Leu Ser Glu Lys Leu Lys Ala Ser Met Gly Glu Met Gln Ala Ser		
115	120	125
Gly Pro Pro Ala Pro Gly Thr Val Gln Val Ser Val Asn Gly Met Asp		
130	135	140
Asp Ser Pro Glu Pro Ala Lys Pro Ser Gln Ala Glu Gly Thr Pro Gly		
145	150	155
Thr Pro Pro Lys Asp Ala Thr Thr Ser Thr Ala Leu Pro Pro Trp Asp		
165	170	175
Leu Pro Pro Gln Phe His Pro Arg Cys Ser Ser Leu Gly Asp Leu Leu		
180	185	190
Gly Glu Gly Pro Arg His Pro Leu Gln Pro Arg Glu Arg Leu Tyr Arg		
195	200	205
Ala Gln Leu Glu Val Lys Val Ala Ser Glu Gln Thr Glu Lys Leu Leu		
210	215	220
Asn Lys Val Leu Gly Ser Glu Pro Ala Pro Val Ser Ala Glu Thr Leu		
225	230	235
Leu Ser Gln Ala Val Glu Gln Leu Arg Gln Ala Thr Gln Val Leu Gln		
245	250	255
Glu Met Arg Asp Leu Gly Glu Leu Ser Gln Glu Ala Pro Gly Leu Arg		
260	265	270
Glu Lys Arg Lys Glu Leu Val Thr Leu Tyr Arg Arg Ser Ala Pro		
275	280	285

<210> 65

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Pleckstrin
homology domain sequence

<400> 65

Ile Val Lys Glu Gly Trp Leu Leu Lys Lys Ser Thr Val Lys Lys Lys
1 5 10 15

Arg Trp Lys Lys Arg Tyr Phe Phe Leu Phe Asn Asp Val Leu Ile Tyr
 20 25 30
 Tyr Lys Asp Lys Lys Lys Ser Tyr Glu Pro Lys Gly Ser Ile Pro Leu
 35 40 45
 Ser Gly Cys Ser Val Glu Asp Val Pro Asp Ser Glu Phe Lys Arg Pro
 50 55 60
 Asn Cys Phe Gln Leu Arg Ser Arg Asp Gly Lys Glu Thr Phe Ile Leu
 65 70 75 80
 Gln Ala Glu Ser Glu Glu Glu Arg Gln Asp Trp Ile Lys Ala Ile Gln
 85 90 95
 Ser Ala Ile

<210> 66
 <211> 103
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Pleckstrin
 homology domain sequence

<400> 66
 Val Ile Lys Glu Gly Trp Leu Leu Lys Lys Ser Ser Gly Gly Lys Lys
 1 5 10 15
 Ser Trp Lys Lys Arg Tyr Phe Val Leu Phe Asn Gly Val Leu Leu Tyr
 20 25 30
 Tyr Lys Ser Lys Lys Lys Lys Ser Ser Ser Lys Pro Lys Gly Ser Ile
 35 40 45
 Pro Leu Ser Gly Cys Thr Val Arg Glu Ala Pro Asp Ser Asp Ser Asp
 50 55 60
 Lys Lys Lys Asn Cys Phe Glu Ile Val Thr Pro Asp Arg Lys Thr Leu
 65 70 75 80
 Leu Leu Gln Ala Glu Ser Glu Glu Glu Arg Lys Glu Trp Val Glu Ala
 85 90 95

Leu Arg Lys Ala Ile Ala Lys
100

<210> 67

<211> 431

<212> PRT

<213> Mus musculus

<400> 67

Met Arg Arg Leu Arg Arg Leu Val His Leu Val Leu Leu Cys Pro Phe
1 5 10 15

Ser Lys Gly Leu Gln Gly Arg Leu Pro Gly Leu Arg Val Lys Tyr Val
20 25 30

Leu Leu Val Trp Leu Gly Ile Phe Val Gly Ser Trp Met Val Tyr Val
35 40 45

His Tyr Ser Ser Tyr Ser Glu Leu Cys Arg Gly His Val Cys Gln Val
50 55 60

Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser Gly Ser Val Cys
65 70 75 80

Gln Asp Leu Cys Glu Leu Gln Lys Val Glu Trp Arg Thr Cys Leu Ser
85 90 95

Ser Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp Gln Asp Lys Glu
100 105 110

Val Thr Ile Lys Cys Gly Ile Glu Glu Ala Leu Asn Ser Lys Ala Trp
115 120 125

Pro Asp Ala Ala Pro Arg Arg Glu Leu Val Leu Phe Asp Lys Pro Thr
130 135 140

Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr Leu Ser Phe Leu
145 150 155 160

Lys Ala Asn Leu Gly Asp Leu Pro Ser Leu Pro Ala Leu Val Asp Gln
165 170 175

Ile Leu Leu Met Ala Asp Phe Asn Lys Asp Ser Arg Val Ser Leu Ala
180 185 190

Glu Ala Lys Ser Val Trp Ala Leu Leu Gln Arg Asn Glu Phe Leu Leu
195 200 205

Leu Leu Ser Leu Gln Glu Lys Glu His Ala Ser Arg Leu Leu Gly Tyr
 210 215 220
 Cys Gly Asp Leu Tyr Leu Thr Glu Gly Ile Pro His Gly Ser Trp His
 225 230 235 240
 Gly Ala Val Leu Leu Pro Ala Leu Arg Pro Leu Leu Pro Ser Val Leu
 245 250 255
 His Arg Ala Leu Gln Gln Trp Phe Gly Pro Ala Trp Pro Trp Arg Ala
 260 265 270
 Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu Leu Phe His Gly
 275 280 285
 Ser Tyr Gly Thr Phe Tyr Met Cys Glu Thr Thr Leu Ala Asn Val Gly
 290 295 300
 Tyr Thr Ala Thr Tyr Asp Phe Lys Met Ala Asp Leu Gln Gln Val Ala
 305 310 315 320
 Pro Glu Ala Thr Val Arg Arg Phe Leu Gln Gly Arg His Cys Glu Gln
 325 330 335
 Ser Ser Asp Cys Ile Tyr Gly Arg Asp Cys Arg Ala Pro Cys Asp Arg
 340 345 350
 Leu Met Arg Gln Cys Lys Gly Asp Leu Ile Gln Pro Asn Leu Ala Lys
 355 360 365
 Val Cys Glu Leu Leu Arg Asp Tyr Leu Leu Pro Gly Ala Pro Ala Gly
 370 375 380
 Leu Tyr Glu Glu Leu Gly Lys Gln Leu Arg Thr Cys Thr Thr Leu Ser
 385 390 395 400
 Gly Leu Ala Ser Gln Ile Glu Ala His His Ser Leu Val Leu Ser His
 405 410 415
 Leu Lys Thr Leu Leu Trp Arg Glu Ile Ser Asn Thr Asn Tyr Ser
 420 425 430

<210> 68

<211> 428

<212> PRT

<213> Mus musculus

<400> 68

Met Val Tyr Val His Tyr Ser Ser Tyr Ser Glu Leu Cys Arg Gly His
1 5 10 15

Val Cys Gln Val Val Ile Cys Asp Gln Tyr Arg Lys Gly Ile Ile Ser
20 25 30

Gly Ser Val Cys Gln Asp Leu Cys Glu Leu Gln Lys Val Glu Trp Arg
35 40 45

Thr Cys Leu Ser Ser Ala Pro Gly Gln Gln Val Tyr Ser Gly Leu Trp
50 55 60

Gln Asp Lys Glu Val Thr Ile Lys Cys Gly Ile Glu Glu Ala Leu Asn
65 70 75 80

Ser Lys Ala Trp Pro Asp Ala Ala Pro Arg Arg Glu Leu Val Leu Phe
85 90 95

Asp Lys Pro Thr Arg Gly Thr Ser Ile Lys Glu Phe Arg Glu Met Thr
100 105 110

Leu Ser Phe Leu Lys Ala Asn Leu Gly Asp Leu Pro Ser Leu Pro Ala
115 120 125

Leu Val Asp Gln Ile Leu Leu Met Ala Asp Phe Asn Lys Asp Ser Arg
130 135 140

Val Ser Leu Ala Glu Ala Lys Ser Val Trp Ala Leu Leu Gln Arg Asn
145 150 155 160

Glu Phe Leu Leu Leu Leu Ser Leu Gln Glu Lys Glu His Ala Ser Arg
165 170 175

Leu Leu Gly Tyr Cys Gly Asp Leu Tyr Leu Thr Glu Gly Ile Pro His
180 185 190

Gly Ser Trp His Gly Ala Val Leu Leu Pro Ala Leu Arg Pro Leu Leu
195 200 205

Pro Ser Val Leu His Arg Ala Leu Gln Gln Trp Phe Gly Pro Ala Trp
210 215 220

Pro Trp Arg Ala Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Glu
225 230 235 240

Leu Phe His Gly Ser Tyr Gly Thr Phe Tyr Met Cys Glu Thr Thr Leu

Glu Glu Thr Leu Asp Ser Lys Ala Arg Ser Asp Ala Ala Pro Arg Arg
 35 40 45

Glu Leu Val Leu Phe Asp Lys Pro Thr Arg Gly Thr Ser Ile Lys Glu
 50 55 60

Phe Arg Glu Met Thr Leu Gly Phe Leu Lys Ala Asn Leu Gly Asp Leu
 65 70 75 80

Pro Ser Leu Pro Ala Leu Val Gly Gln Val Leu Leu Met Ala Asp Phe
 85 90 95

Asn Lys Asp Asn Arg Val Ser Leu Ala Glu Ala Lys Ser Val Trp Ala
 100 105 110

Leu Leu Gln Arg Asn Glu Phe Leu Leu Leu Leu Ser Leu Gln Glu Lys
 115 120 125

Glu His Ala Ser Arg Leu Leu Gly Tyr Cys Gly Asp Leu Tyr Leu Thr
 130 135 140

Glu Gly Val Pro His Gly Ala Trp His Ala Ala Ala Leu Pro Pro Leu
 145 150 155 160

Leu Arg Pro Leu Leu Pro Pro Ala Leu Gln Gly Ala Leu Gln Gln Trp
 165 170 175

Leu Gly Pro Ala Trp Pro Trp Arg Ala Lys Ile Ala Ile Gly Leu Leu
 180 185 190

Glu Phe Val Glu Glu Leu Phe His Gly Ser Tyr Gly Thr Phe Tyr Met
 195 200 205

Cys Glu Thr Thr Leu Ala Asn Val Gly Tyr Thr Ala Thr Tyr Asp Phe
 210 215 220

Lys Met Ala Asp Leu Gln Gln Val Ala Pro Glu Ala Thr Val Arg Arg
 225 230 235 240

Phe Leu Gln Gly Arg Arg Cys Glu His Ser Thr Asp Cys Thr Thr Gly
 245 250 255

Ala Thr Ala Gly Pro Arg Val Thr Gly Ser
 260 265

<210> 70

<211> 428

<212> PRT

<213> Mus musculus

<400> 70

Met	Ala	Arg	Ser	Leu	Cys	Ala	Gly	Ala	Trp	Leu	Arg	Lys	Pro	His	Tyr
1				5					10					15	

Leu	Gln	Ala	Arg	Leu	Ser	Tyr	Met	Arg	Val	Lys	Tyr	Leu	Phe	Phe	Ser
			20					25					30		

Trp	Leu	Val	Val	Phe	Val	Gly	Ser	Trp	Ile	Ile	Tyr	Val	Gln	Tyr	Ser
	35						40					45			

Thr	Tyr	Thr	Glu	Leu	Cys	Arg	Gly	Lys	Asp	Cys	Lys	Lys	Ile	Ile	Cys
	50					55					60				

Asp	Lys	Tyr	Lys	Thr	Gly	Val	Ile	Asp	Gly	Pro	Ala	Cys	Asn	Ser	Leu
65					70					75					80

Cys	Val	Thr	Glu	Thr	Leu	Tyr	Phe	Gly	Lys	Cys	Leu	Ser	Asn	Lys	Pro
				85					90					95	

Ser	Asn	Gln	Met	Tyr	Leu	Gly	Val	Trp	Asp	Asn	Leu	Pro	Gly	Val	Val
		100						105					110		

Lys	Cys	Gln	Met	Glu	Gln	Ala	Leu	His	Leu	Asp	Phe	Gly	Thr	Glu	Leu
	115						120					125			

Glu	Pro	Arg	Lys	Glu	Ile	Val	Leu	Phe	Asp	Lys	Pro	Thr	Arg	Gly	Thr
	130					135					140				

Thr	Val	Gln	Lys	Phe	Lys	Glu	Met	Val	Tyr	Ser	Leu	Phe	Lys	Ala	Lys
145					150					155					160

Leu	Gly	Asp	Gln	Gly	Asn	Leu	Ser	Glu	Leu	Val	Asn	Leu	Ile	Leu	Thr
			165					170					175		

Val	Ala	Asp	Gly	Asp	Arg	Asp	Gly	Gln	Val	Ser	Leu	Gly	Glu	Ala	Lys
		180					185						190		

Ser	Ala	Trp	Ala	Leu	Leu	Gln	Leu	Asn	Glu	Phe	Leu	Leu	Met	Val	Ile
		195				200						205			

Leu	Gln	Asp	Lys	Glu	His	Thr	Pro	Lys	Leu	Met	Gly	Phe	Cys	Gly	Asp
	210					215					220				

Leu	Tyr	Val	Met	Glu	Ser	Val	Glu	Tyr	Thr	Ser	Leu	Tyr	Gly	Ile	Ser
225					230					235					240

Leu Pro Trp Val Met Glu Leu Phe Ile Pro Ser Gly Phe Arg Arg Ser
245 250 255

Met Asp Gln Leu Phe Thr Pro Ser Trp Pro Arg Lys Ala Lys Ile Ala
260 265 270

Ile Gly Leu Leu Glu Phe Val Glu Asp Val Phe His Gly Pro Tyr Gly
275 280 285

Asn Phe Leu Met Cys Asp Thr Ser Ala Lys Asn Leu Gly Tyr Asn Glu
290 295 300

Lys Tyr Asp Leu Lys Met Val Asp Met Arg Lys Ile Val Pro Glu Thr
305 310 315 320

Asn Leu Lys Glu Leu Ile Lys Asp Arg His Cys Glu Ser Asp Leu Asp
325 330 335

Cys Val Tyr Gly Thr Asp Cys Arg Thr Ser Cys Asp Leu Ser Thr Met
340 345 350

Lys Cys Thr Ser Glu Val Ile Gln Pro Asn Leu Ala Lys Ala Cys Gln
355 360 365

Leu Leu Lys Asp Tyr Leu Leu His Gly Ala Pro Ser Glu Ile Arg Glu
370 375 380

Glu Leu Glu Lys Gln Leu Tyr Ser Cys Ile Ala Leu Lys Val Thr Ala
385 390 395 400

Asn Gln Met Glu Met Glu His Ser Leu Ile Leu Asn Asn Leu Lys Thr
405 410 415

Leu Leu Trp Lys Lys Ile Ser Tyr Thr Asn Asp Ser
420 425

<210> 71
<211> 403
<212> PRT
<213> Homo sapiens

<400> 71
Met Lys Tyr Leu Phe Phe Ser Trp Leu Val Val Phe Val Gly Ser Trp
1 5 10 15

Ile Ile Tyr Val Gln Tyr Ser Thr Tyr Thr Glu Leu Cys Arg Gly Lys

20	25	30
Asp Cys Lys Lys Ile Ile Cys Asp Lys Tyr Lys Thr Gly Val Ile Asp		
35	40	45
Gly Pro Ala Cys Asn Ser Leu Cys Val Thr Glu Thr Leu Tyr Phe Gly		
50	55	60
Lys Cys Leu Ser Thr Lys Pro Asn Asn Gln Met Tyr Leu Gly Ile Trp		
65	70	75
80		
Asp Asn Leu Pro Gly Val Val Lys Cys Gln Met Glu Gln Ala Leu His		
85	90	95
Leu Asp Phe Gly Thr Glu Leu Glu Pro Arg Lys Glu Ile Val Leu Phe		
100	105	110
Asp Lys Pro Thr Arg Gly Thr Thr Val Gln Lys Phe Lys Glu Met Val		
115	120	125
Tyr Ser Leu Phe Lys Ala Lys Leu Gly Asp Gln Gly Asn Leu Ser Glu		
130	135	140
Leu Val Asn Leu Ile Leu Thr Val Ala Asp Gly Asp Lys Asp Gly Gln		
145	150	155
160		
Val Ser Leu Gly Glu Ala Lys Ser Ala Trp Ala Leu Leu Gln Leu Asn		
165	170	175
Glu Phe Leu Leu Met Val Ile Leu Gln Asp Lys Glu His Thr Pro Lys		
180	185	190
Leu Met Gly Phe Cys Gly Asp Leu Tyr Val Met Glu Ser Val Glu Tyr		
195	200	205
Thr Ser Leu Tyr Gly Ile Ser Leu Pro Trp Val Ile Glu Leu Phe Ile		
210	215	220
Pro Ser Gly Phe Arg Arg Ser Met Asp Gln Leu Phe Thr Pro Ser Trp		
225	230	235
240		
Pro Arg Lys Ala Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Asp		
245	250	255
Val Phe His Gly Pro Tyr Gly Asn Phe Leu Met Cys Asp Thr Ser Ala		
260	265	270
Lys Asn Leu Gly Tyr Asn Asp Lys Tyr Asp Leu Lys Met Val Asp Met		

275	280	285
Arg Lys Ile Val Pro Glu Thr Asn Leu Lys Glu Leu Ile Lys Asp Arg		
290	295	300
His Cys Glu Ser Asp Leu Asp Cys Val Tyr Gly Thr Asp Cys Arg Thr		
305	310	315 320
Ser Cys Asp Gln Ser Thr Met Lys Cys Thr Ser Glu Val Ile Gln Pro		
325	330	335
Asn Leu Ala Lys Ala Cys Gln Leu Leu Lys Asp Tyr Leu Leu Arg Gly		
340	345	350
Ala Pro Ser Glu Ile Arg Glu Glu Leu Glu Lys Gln Leu Tyr Ser Cys		
355	360	365
Ile Ala Leu Lys Val Thr Ala Asn Gln Met Glu Met Glu His Ser Leu		
370	375	380
Ile Leu Asn Asn Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Tyr Thr		
385	390	395 400
Asn Asp Ser		

<210> 72
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 72
Met Asp Gly Thr Asn Gly Ser Thr Gln Thr His Phe Ile Leu Leu Gly
1 5 10 15
Phe Ser Asp Arg Pro His Leu Glu Arg Ile Leu Phe Val Val Ile Leu
20 25 30
Ile Ala Tyr Leu Leu Thr Leu Val Gly Asn Thr Thr Ile Ile Leu Val
35 40 45
Ser Arg Leu Asp Pro His Leu His Thr Pro Met Tyr Phe Phe Leu Ala
50 55 60
His Leu Ser Phe Leu Asp Leu Ser Phe Thr Thr Ser Ser Ile Pro Gln
65 70 75 80

Leu Leu Tyr Asn Leu Asn Gly Cys Asp Lys Thr Ile Ser Tyr Met Gly
85 90 95

Cys Ala Ile Gln Leu Phe Leu Phe Leu Gly Leu Gly Gly Val Glu Cys
100 105 110

Leu Leu Leu Ala Val Met Ala Tyr Asp Arg Cys Val Ala Ile Cys Lys
115 120 125

Pro Leu His Tyr Met Val Ile Met Asn Pro Arg Leu Cys Arg Gly Leu
130 135 140

Val Ser Val Thr Trp Gly Cys Gly Val Ala Asn Ser Leu Ala Met Ser
145 150 155 160

Pro Val Thr Leu Arg Leu Pro Arg Cys Gly His His Glu Val Asp His
165 170 175

Phe Arg Glu Met Pro Ala Leu Ile Arg Met Ala Cys Val Ser Thr Val
180 185 190

Ala Ile Glu Gly Thr Val Phe Val Leu Lys Lys Gly Val Val Leu Ser
195 200 205

Pro Leu Val Phe Ile Leu Leu Ser Tyr Ser Tyr Ile Val Arg Ala Val
210 215 220

Leu Gln Ile Arg Ser Ala Ser Gly Arg Gln Lys Ala Phe Gly Thr Cys
225 230 235 240

Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile Tyr
245 250 255

Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Met Phe Leu
260 265 270

Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu Ile Tyr
275 280 285

Thr Leu Arg Arg Glu Val Lys Gly Ala Leu Gly Arg Leu Leu Leu Gly
290 295 300

Lys Arg Glu Leu Gly Lys Glu
305 310

<210> 73

<211> 314

<212> PRT

<213> Marmota marmota

<400> 73

Met	Asp	Gly	Thr	Asn	Gly	Ser	Thr	Gln	Thr	His	Phe	Ile	Leu	Leu	Gly
1				5				10					15		

Phe	Ser	Asp	Arg	Pro	His	Leu	Glu	Arg	Ile	Leu	Phe	Val	Val	Ile	Leu
			20					25					30		

Ile	Ala	Tyr	Leu	Leu	Thr	Leu	Val	Gly	Asn	Thr	Thr	Ile	Ile	Leu	Val
		35					40					45			

Ser	Arg	Leu	Asp	Pro	His	Leu	His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Ala
	50						55				60				

His	Leu	Ser	Phe	Leu	Asp	Leu	Ser	Phe	Thr	Thr	Ser	Ser	Ile	Pro	Gln
65					70					75					80

Leu	Leu	Tyr	Asn	Leu	Asn	Gly	Cys	Asp	Lys	Thr	Ile	Ser	Tyr	Met	Gly
				85					90					95	

Cys	Ala	Ile	Gln	Leu	Phe	Leu	Phe	Leu	Gly	Leu	Gly	Gly	Val	Glu	Cys
			100						105				110		

Leu	Leu	Leu	Ala	Val	Met	Ala	Tyr	Asp	Arg	Cys	Val	Ala	Ile	Cys	Lys
		115						120				125			

Pro	Leu	His	Tyr	Met	Val	Ile	Met	Asn	Pro	Arg	Leu	Cys	Arg	Gly	Leu
	130						135				140				

Val	Ser	Val	Thr	Trp	Gly	Cys	Gly	Val	Ala	Asn	Ser	Leu	Ala	Met	Ser
145					150					155				160	

Pro	Val	Thr	Leu	Arg	Leu	Pro	Arg	Cys	Gly	His	His	Glu	Val	Asp	His
				165					170					175	

Phe	Leu	Arg	Glu	Met	Pro	Ala	Leu	Ile	Arg	Met	Ala	Cys	Val	Ser	Thr
		180						185					190		

Val	Ala	Ile	Glu	Gly	Thr	Val	Phe	Val	Leu	Lys	Lys	Gly	Val	Val	Leu
		195					200					205			

Ser	Pro	Leu	Val	Phe	Ile	Leu	Leu	Ser	Tyr	Ser	Tyr	Ile	Val	Arg	Ala
	210					215					220				

Val	Leu	Gln	Ile	Arg	Ser	Ala	Ser	Gly	Arg	Gln	Lys	Ala	Phe	Gly	Thr
225					230					235					240

Cys Gly Ser His Leu Thr Val Val Ser Leu Phe Tyr Gly Asn Ile Ile
245 250 255

Tyr Met Tyr Met Gln Pro Gly Ala Ser Ser Ser Gln Asp Gln Gly Met
260 265 270

Phe Leu Met Leu Phe Tyr Asn Ile Val Thr Pro Leu Leu Asn Pro Leu
275 280 285

Ile Tyr Thr Leu Arg Asn Arg Glu Val Lys Gly Ala Leu Gly Arg Leu
290 295 300

Leu Leu Gly Lys Arg Glu Leu Gly Lys Glu
305 310

<210> 74

<211> 320

<212> PRT

<213> Homo sapiens

<400> 74

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
65 70 75 80

Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met

130	135	140
Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys 145 150 155 160		
Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His 165 170 175		
Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr 180 185 190		
Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu 195 200 205		
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala 210 215 220		
Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr 225 230 235 240		
Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile 245 250 255		
Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys 260 265 270		
Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu 275 280 285		
Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu 290 295 300		
Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser 305 310 315 320		

<210> 75

<211> 320

<212> PRT

<213> Homo sapiens

<400> 75

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
20 25 30
Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
35 40 45
Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
50 55 60
Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
65 70 75 80
Val Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
85 90 95
Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
100 105 110
Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
115 120 125
Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
130 135 140
Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
145 150 155 160
Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
165 170 175
Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
180 185 190
Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
195 200 205
Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
210 215 220
Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
225 230 235 240
Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
245 250 255
Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
 275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asp Met Lys Asp Ala Leu Lys Lys Leu
 290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
 305 310 315 320

<210> 76

<211> 320

<212> PRT

<213> Homo sapiens

<400> 76

Met Asp Gln Ser Asn Tyr Ser Ser Leu His Gly Phe Ile Leu Leu Gly
 1 5 10 15

Phe Ser Asn His Pro Lys Met Glu Met Ile Leu Ser Gly Val Val Ala
 20 25 30

Ile Phe Tyr Leu Ile Thr Leu Val Gly Asn Thr Ala Ile Ile Leu Ala
 35 40 45

Ser Leu Leu Asp Ser Gln Leu His Thr Pro Met Tyr Phe Phe Leu Arg
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Phe Thr Thr Ser Ile Ile Pro Gln
 65 70 75 80

Met Leu Val Asn Leu Trp Gly Pro Asp Lys Thr Ile Ser Tyr Val Gly
 85 90 95

Cys Ile Ile Gln Leu Tyr Val Tyr Met Trp Leu Gly Ser Val Glu Cys
 100 105 110

Leu Leu Leu Ala Val Met Ser Tyr Asp Arg Phe Thr Ala Ile Cys Lys
 115 120 125

Pro Leu His Tyr Phe Val Val Met Asn Pro His Leu Cys Leu Lys Met
 130 135 140

Ile Ile Met Ile Trp Ser Ile Ser Leu Ala Asn Ser Val Val Leu Cys
 145 150 155 160

Thr Leu Thr Leu Asn Leu Pro Thr Cys Gly Asn Asn Ile Leu Asp His
165 170 175

Phe Leu Cys Glu Leu Pro Ala Leu Val Lys Ile Ala Cys Val Asp Thr
180 185 190

Thr Thr Val Glu Met Ser Val Phe Ala Leu Gly Ile Ile Ile Val Leu
195 200 205

Thr Pro Leu Ile Leu Ile Leu Ile Ser Tyr Gly Tyr Ile Ala Lys Ala
210 215 220

Val Leu Arg Thr Lys Ser Lys Ala Ser Gln Arg Lys Ala Met Asn Thr
225 230 235 240

Cys Gly Ser His Leu Thr Val Val Ser Met Phe Tyr Gly Thr Ile Ile
245 250 255

Tyr Met Tyr Leu Gln Pro Gly Asn Arg Ala Ser Lys Asp Gln Gly Lys
260 265 270

Phe Leu Thr Leu Phe Tyr Thr Val Ile Thr Pro Ser Leu Asn Pro Leu
275 280 285

Ile Tyr Thr Leu Arg Asn Lys Asn Met Lys Asp Ala Leu Lys Lys Leu
290 295 300

Met Arg Phe His His Lys Ser Thr Lys Ile Lys Arg Asn Cys Lys Ser
305 310 315 320

<210> 77

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 7tm_1, 7
transmembrane receptor domain sequence

<400> 77

Gly Asn Leu Leu Val Ile Leu Val Ile Leu Arg Thr Lys Lys Leu Arg
1 5 10 15

Thr Pro Thr Asn Ile Phe Leu Leu Asn Leu Ala Val Ala Asp Leu Leu
 20 25 30
 Phe Leu Leu Thr Leu Pro Pro Trp Ala Leu Tyr Tyr Leu Val Gly Gly
 35 40 45
 Asp Trp Val Phe Gly Asp Ala Leu Cys Lys Leu Val Gly Ala Leu Phe
 50 55 60
 Val Val Asn Gly Tyr Ala Ser Ile Leu Leu Leu Thr Ala Ile Ser Ile
 65 70 75 80
 Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Tyr Arg Arg Ile Arg
 85 90 95
 Thr Pro Arg Arg Ala Lys Val Leu Ile Leu Leu Val Trp Val Leu Ala
 100 105 110
 Leu Leu Leu Ser Leu Pro Pro Leu Leu Phe Ser Trp Leu Arg Thr Val
 115 120 125
 Glu Glu Gly Asn Thr Thr Val Cys Leu Ile Asp Phe Pro Glu Glu Ser
 130 135 140
 Val Lys Arg Ser Tyr Val Leu Leu Ser Thr Leu Val Gly Phe Val Leu
 145 150 155 160
 Pro Leu Leu Val Ile Leu Val Cys Tyr Thr Arg Ile Leu Arg Thr Leu
 165 170 175
 Arg Lys Arg Ala Arg Ser Gln Arg Ser Leu Lys Arg Arg Ser Ser Ser
 180 185 190
 Glu Arg Lys Ala Ala Lys Met Leu Leu Val Val Val Val Val Phe Val
 195 200 205
 Leu Cys Trp Leu Pro Tyr His Ile Val Leu Leu Leu Asp Ser Leu Cys
 210 215 220
 Leu Leu Ser Ile Trp Arg Val Leu Pro Thr Ala Leu Leu Ile Thr Leu
 225 230 235 240
 Trp Leu Ala Tyr Val Asn Ser Cys Leu Asn Pro Ile Ile Tyr
 245 250

<210> 78

<211> 188

<212> PRT

<213> Homo sapiens

<400> 78

Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Phe Arg Gln Pro Ser
1 5 10 15

Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly
20 25 30

Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met
35 40 45

Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile
50 55 60

Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys
65 70 75 80

Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys
85 90 95

Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
100 105 110

Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu
115 120 125

Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
130 135 140

Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly
145 150 155 160

Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp
165 170 175

Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu
180 185

<210> 79

<211> 188

<212> PRT

<213> Mus musculus

<400> 79

Met Thr Ser Pro Trp Ser Ala Phe Pro Val Gln Ile Pro Gln Pro Ser

1	5	10	15
Ile Arg Gly Leu Ser Gln Ile Thr Lys Ser Leu Phe Ile Ser Asn Gly	20	25	30
Val Ala Ala Asn Asn Lys Leu Leu Leu Ser Ser Asn Gln Ile Thr Thr	35	40	45
Val Ile Asn Val Ser Val Glu Val Ala Asn Thr Phe Tyr Glu Asp Ile	50	55	60
Gln Tyr Val Gln Val Pro Val Val Asp Ala Pro Val Ala Arg Leu Ser	65	70	75
Asn Phe Phe Asp Ser Val Ala Asp Arg Ile His Ser Val Glu Met Gln	85	90	95
Lys Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala	100	105	110
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Val	115	120	125
Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn	130	135	140
Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Leu Gln Leu Phe Gly	145	150	155
Lys Asn Thr Met Gln Met Met Asp Ser Pro Met Gly Arg Ile Pro Asp	165	170	175
Ile Tyr Glu Lys Glu Thr Arg Leu Met Ile Pro Leu	180	185	

<210> 80

<211> 151

<212> PRT

<213> Homo sapiens

<400> 80

Ala Arg Gly Leu Ser Ser Asn Gln Ile Thr Met Val Ile Asn Val Ser	1	5	10	15
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Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile Gln Tyr Met Gln Val	20	25	30
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Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys Asp Phe Phe Asp Pro
35 40 45

Ile Ala Asp His Ile His Ser Val Glu Met Lys Gln Gly Arg Thr Leu
50 55 60

Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala Ala Leu Cys Leu Ala
65 70 75 80

Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu Asp Ala His Thr Trp
85 90 95

Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn Ser Gly Phe Trp Glu
100 105 110

Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly Lys Asn Thr Val His
115 120 125

Met Val Ser Ser Pro Val Gly Met Ile Pro Asp Ile Tyr Glu Lys Glu
130 135 140

Val Arg Leu Met Ile Pro Leu
145 150

<210> 81

<211> 187

<212> PRT

<213> Mus musculus

<400> 81

Met Thr Thr Ala Ser Cys Ile Phe Pro Ser Gln Ala Thr Gln Gln Asp
1 5 10 15

Asn Ile Tyr Gly Leu Ser Gln Ile Thr Ala Ser Leu Phe Ile Ser Asn
20 25 30

Ser Ala Val Ala Asn Asp Lys Leu Thr Leu Ser Asn Asn His Ile Thr
35 40 45

Thr Ile Ile Asn Val Ser Ala Glu Val Val Asn Thr Phe Phe Glu Asp
50 55 60

Ile Gln Tyr Val Gln Val Pro Val Ser Asp Ala Pro Asn Ser Tyr Leu
65 70 75 80

Tyr Asp Phe Phe Asp Pro Ile Ala Asp Ile His Gly Val Glu Met Arg
85 90 95

Asn Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
100 105 110

Thr Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Asn Met Thr Leu Leu
115 120 125

Asp Ala His Thr Trp Thr Lys Thr Cys Arg Pro Ile Ile Arg Pro Asn
130 135 140

Asn Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Lys Leu Phe Ser
145 150 155 160

Arg Asn Thr Val Arg Met Ile Tyr Ser Pro Ile Gly Leu Ile Pro Asn
165 170 175

Ile Tyr Glu Lys Ala Tyr Leu Met Glu Leu Met
180 185

<210> 82

<211> 190

<212> PRT

<213> Homo sapiens

<400> 82

Met Thr Ala Ser Ala Ser Ser Phe Ser Ser Ser Gln Gly Val Gln Gln
1 5 10 15

Pro Ser Ile Tyr Ser Phe Ser Gln Ile Thr Arg Ser Leu Phe Leu Ser
20 25 30

Asn Gly Val Ala Ala Asn Asp Lys Leu Leu Leu Ser Ser Asn Arg Ile
35 40 45

Thr Ala Ile Val Asn Ala Ser Val Glu Val Val Asn Val Phe Phe Glu
50 55 60

Gly Ile Gln Tyr Ile Lys Val Pro Val Thr Asp Ala Arg Asp Ser Arg
65 70 75 80

Leu Tyr Asp Phe Phe Asp Pro Ile Ala Asp Leu Ile His Thr Ile Asp
85 90 95

Met Arg Gln Gly Arg Thr Leu Leu His Cys Met Ala Gly Val Ser Arg
100 105 110

Ser Ala Ser Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ser Met Ser

115	120	125
Leu Leu Asp Ala His Thr Trp Thr Lys Ser Arg Arg Pro Ile Ile Arg		
130	135	140
Pro Asn Asn Gly Phe Trp Glu Gln Leu Ile Asn Tyr Glu Phe Lys Leu		
145	150	155
Phe Asn Asn Asn Thr Val Arg Met Ile Asn Ser Pro Val Gly Asn Ile		
165	170	175
Pro Asp Ile Tyr Glu Lys Asp Leu Arg Met Met Ile Ser Met		
180	185	190

<210> 83

<211> 139

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DSPc, Dual
specificity phosphatase domain sequence

<400> 83

Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Ser Asp		
1	5	10
Ala Ser Asn Leu Ala Leu Leu Lys Lys Leu Gly Ile Thr His Val Ile		
20	25	30
Asn Val Thr Glu Glu Val Pro Asn Ser Asn Lys Ser Gly Phe Leu Tyr		
35	40	45
Leu Gly Ile Pro Val Asp Asp Asn Thr Glu Thr Lys Ile Ser Pro Tyr		
50	55	60
Leu Pro Glu Ala Val Glu Phe Ile Glu Asp Ala Glu Lys Lys Gly Gly		
65	70	75
Lys Val Leu Val His Cys Gln Ala Gly Val Ser Arg Ser Ala Thr Leu		
85	90	95
Ile Ile Ala Tyr Leu Met Lys Tyr Arg Asn Met Ser Leu Asn Asp Ala		
100	105	110
Tyr Asp Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly		
115	120	125

Phe Leu Arg Gln Leu Ile Glu Tyr Glu Arg Lys
 130 135

<210> 84
 <211> 139
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Description of
 Artificial Sequence: DSPc, Dual specificity
 phosphatase domain sequence

<400> 84
 Gly Pro Ser Glu Ile Leu Pro His Leu Tyr Leu Gly Ser Tyr Pro Thr
 1 5 10 15
 Ala Ser Asn Leu Ala Phe Leu Ser Lys Leu Gly Ile Thr His Val Ile
 20 25 30
 Asn Val Thr Glu Glu Val Pro Asn Ser Lys Asn Ser Gly Phe Leu Tyr
 35 40 45
 Leu His Ile Pro Val Asp Asp Asn His Glu Thr Asp Ile Ser Pro Tyr
 50 55 60
 Leu Asp Glu Ala Val Glu Phe Ile Glu Asp Ala Arg Gln Lys Gly Gly
 65 70 75 80
 Lys Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala Thr Leu
 85 90 95
 Ile Ile Ala Tyr Leu Met Lys Thr Arg Asn Leu Ser Leu Asn Glu Ala
 100 105 110
 Tyr Ser Phe Val Lys Glu Arg Arg Pro Ile Ile Ser Pro Asn Phe Gly
 115 120 125
 Phe Lys Arg Gln Leu Ile Glu Tyr Glu Arg Lys
 130 135

<210> 85
 <211> 33
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PTPc, Protein
tyrosine phosphatase domain sequence

<400> 85

Arg Lys Ser Gln Ser Thr Leu Arg Asn Ser Gly Pro Ile Val Val His
1 5 10 15

Cys Ser Ala Gly Val Gly Arg Thr Gly Thr Phe Ile Ala Ile Asp Ile
20 25 30

Leu

<210> 86

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 86

ctggaccgaa gctacagcta ta 22

<210> 87

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 87

atggcccagg cccattctac aataaa 26

<210> 88

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 88

cgagctcctc ttcagagatg a

21

<210> 89

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 89

gctccttcaa gacggtgtat c

21

<210> 90

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 90

ctagacaccg acaccacagt ggaggt

26

<210> 91

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer
sequence

<400> 91

ccgctcagct ctagacagtt t

21

<210> 92

<211> 22

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

 <400> 92
 gtaaaggcat ctccacctga ct 22

 <210> 93
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

 <400> 93
 tcacttccat ccagggccac tgg 23

 <210> 94
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

 <400> 94
 gggctaatat cagctggaat tc 22

 <210> 95
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: PCR primer
 sequence

 <400> 95
 aattgtttgg caagaacact gt 22

<210> 96
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 96
ccagtgggaa tgatccctga catcta 26

<210> 97
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR primer
sequence

<400> 97
atcatcaaac ggacttcctt ct 22